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ANTHRAX, OR CHARBON.

BY W. E. LITT, M.R.C.V.S., SHREWSBURY.

ON August the 18th last, I was requested by Mr. Stilgoe, of Cludley, near Wellington, Salop, to see a young horse, his property, in consultation with Mr. Pemberton, veterinary surgeon.

With as little delay as possible, I proceeded to Cludley, and found the animal, a four-year-old cart-colt, in a very distressed condition, standing with protruded head and staring eyes, breathing with great difficulty, and each respiration accompanied with great roaring. There was very considerable swelling under the jaws, in the parotid region, and extending as low down as the upper third of the neck. The pulse was small, and numbered seventy-three beats. The number of respirations to the minute was twenty-eight. On enquiry, I was told that the animal was observed as late as nine o'clock the previous evening in its accustomed health, grazing in a small field adjoining the house. That morning, early, however, it was noticed that he was dull, and it seemed evident to the owner that something was amiss. Having within the previous fortnight lost a calf, three pigs, and a valuable mare, Mr. Stilgoe naturally felt some uneasiness, and allowed no time to elapse in requesting me to meet Mr. Pemberton, although, as he said, under ordinary circumstances, he should have thought little of the matter, there being at that

time (seven a.m.) so little amiss. At 11.30 a.m., however, the case stood as I have described. As it was evident that the œdematous effusion in the laryngeal region was rapidly blocking up that orifice, I at once performed the operation of tracheotomy, which had the immediate effect of relieving the breathing, and greatly adding to the animal's comfort. It was, however, then quite obvious that the case must terminate fatally, and the horse died about nine a.m. on the following morning. A *post-mortem* examination was performed by Mr. Pemberton, and to him I am indebted for particulars, not having myself been able to be present. As the result of the examination, it appeared that there was a very extensive infiltration of the muscular tissues of the head, neck, and breast, with yellow serous fluid of a jelly-like nature; some blood extravasations about the muscles of the shoulder; an ecchymosed condition of the abdominal viscera; considerable enlargement of the spleen; and a want of coagulation in the blood contained in the cavities of the heart and large vessels.

I have before stated that, within the fortnight preceding this case, a calf, three pigs, and a mare had died on this farm, and upon enquiry I gained the following particulars:—On August 1st, a fat calf, four months old, was seen to be lame and otherwise unwell. On the following day it was slaughtered. The butcher who dressed the carcase observed nothing amiss, excepting that the flesh underneath the loins was, as he described it, "blood-stained," and that the spleen was very much enlarged. The meat was not sold, but given away to some cottagers, and the offal was thrown out into the adjoining field, and devoured by six pigs, which were running loose, and two spaniel dogs. The cottagers who partook of the veal suffered no inconvenience whatever; but on the morning of the 4th, one pig was found dead in the stye, and the other five were all more or less suffering from swelling in the throat, great difficulty in breathing, and a purplish discoloration of the skin, extending in large patches, more or less, over the whole surface of the body. On the 6th, the second pig died, and on the 9th, the third. The other three recovered. The two dogs also became affected with extensive swelling in the throat and neck, and the same difficulty in breathing; but

they recovered in the course of a couple of days. On the 12th, a cart mare that had been regularly pastured in the field which I have described, was there noticed to be showing signs of abdominal pain. She was at once taken up, and some ordinary colic medicine administered to her. She was placed under the care of Mr. Pemberton, but died on the following evening, having, as I am informed by him, shown no symptoms other than those of abdominal derangement. A *post-mortem* examination, however, disclosed an enormous engorgement of the spleen, a generally ecchymosed condition of the stomach and intestines, and a very considerable effusion of jelly-like lymph in the sub-lumbar region. There can, I think, be no doubt that the calf which was slaughtered had been suffering from Anthrax, and was the origin of all the mischief. The pigs and dogs contracted the disease by eating the offal, and the septic virus was conveyed to the horses through the medium of the grass, which had been contaminated by this same offal being thrown thereon.

Professor Axe has carefully and graphically described in the *Veterinarian* for December, 1873, an almost precisely similar outbreak of Anthrax, or Charbon. Such outbreaks, however, are rare in this country, although common enough on the Continent, and more especially in the southern parts of Europe; and it would appear that in only a few exceptional cases is that specific virus developed in the blood-diseases of our cattle which proves so fatal when conveyed to other animals.

ANÆMIA IN SHEEP.

BY W. ROBERTSON, M.R.C.V.S., KELSO.

IT is a fact at the present time pretty well established, that amongst those animals from which we draw our principal food supplies—cattle and sheep—if we except those epizoötics to which they are liable, and certain diseased conditions the result of parasitism, by far the largest proportion of loss sustained in these classes of animals results from diseases of the dietetic class. And owing to this increase in the demand for animal

food, and its absolute necessity to the inhabitants of Great Britain, and consequently its proportionate advancement in value, the inducements to rearers and feeders of stock to augment the supply of this commodity, both by increase of numbers and the rapidity and economy with which these animals are brought to fulfil the purpose for which they are specially reared, are also daily increasing. All these conditions of necessity give to dieting an enhanced importance, and tend to augment the number of those diseases connected therewith. There is little doubt that these animals, the sources of our food supply, are frequently treated in a manner most injudicious, and not at all conducive to the attainment of the ends desired. The hot haste exhibited in most matters of the present age is even observable in the rearing and feeding of stock. The system of quietly waiting for animals to reach maturity, the gradual result of age and careful management, is more generally replaced by treatment which may not inappropriately be termed "manufacturing" beef and mutton. In saying this, it is not intended to disparage or condemn the modern system of stock-feeding. Still we cannot shut our eyes to the fact that in this there is often too great pressure put upon these animals at certain periods of their life; that too little attention is given to those great principles upon which healthy animal existence can only be maintained. If any proof were demanded for the truth of these statements, it can be readily enough obtained from a simple consideration of the enormous losses which are every year sustained, by holders of both cattle and sheep, from such diseases as are represented by the different classes of the anthracoid and blood affections; and from the knowledge that these are steadily increasing, as respects the extent of country over which they are distributed.

I am perfectly well aware that most stock-owners have come to the conclusion, and it is probably a correct one, that they are better paid by keeping a large amount of stock on a given extent of land, and suffering a large death-rate, than they are from a small stock on the same land, having at the same time a small death-rate. Yet this does not seem to prove that even the larger amount of stock may not, under more favourable

conditions of knowledge as to stock management and animal capabilities and adaptability, be maintained and fattened with a much smaller death-rate, and consequently larger per-centage of remuneration. Undoubtedly, the greater number of the dietetic diseases from which losses are sustained amongst stock may correctly be termed "diseases of plethora," in which there appears a redundancy of the nutritive material. This has led even careful observers to ignore or overlook the fact that, when least expecting it, as serious results may occur from a directly opposite condition.

The morbid state ordinarily recognised by the term "Anæmia" —a deficiency of the circulating blood, accompanied by an alteration of the equilibrium naturally subsisting amongst the different constituent elements of this fluid—is probably more frequently met with as an accompaniment or result of some other diseased condition, than as a distinct and independent state, unassociated with some specific lesion or general cachexia. It is not, however, to Anæmia, as occurring in the course of many specific morbid actions in the animal economy, that it is now proposed to direct attention, but rather to its existence as met with in some of our patients, either as a distinct and independently recognised state, not essentially springing from, or associated with, any other appreciable morbid condition or organic lesion; or as existing and developed coincidently, and in association with, certain structural changes in the liver. That a perfect state of Anæmia—an absolute want of blood—may not exist is certainly true; but not more so, probably, than that the existence of a condition where the sum total of the life fluid is markedly reduced in amount from what may be regarded as the average healthy standard; this lessened volume at the same time most usually exhibiting an alteration in the relative proportions of one or more of its constituent elements.

Although Anæmia, as a simple, distinct, and apparently uncomplicated diseased condition, is occasionally seen in all those animals which come under our attention, it is entirely to its manifestation in sheep that the present observations and record of facts apply. Varieties of breed do not seem to have much or any influence in its development; age, however, does, the young

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being most amenable to the inducing influences. In all cases of its appearance, the disturbed relations, or non-fulfilment of conditions essential to the maintenance of healthy animal life, appear to exist in the province of diet. In no instance have we encountered Anæmia where the diet has been of a mixed character; and in every extensive outbreak, the food material, whatever it was, or in whatever quantity allowed, has been characterised by one feature—sameness. While restoration to health, in those animals in which exhaustion has not proceeded to an extreme point, was invariably attendant on a change of diet or on an addition to the existing one of some other material, —this even, in some cases, not apparently excelling the original in what are regarded as qualities of nutrition.

Although probably of less frequent occurrence everywhere during the summer, the different seasons of the year do not appear to influence its production to an extent at all comparable with varieties of soil. This we can, with little difficulty, understand, when we consider that much as meteorological conditions influence the character and healthy development of plants which form the food supplies of animals, the geological formation of a soil, and its manurial poverty or richness, upon which these plants so largely depend for their support, must of necessity exercise an influence infinitely greater.

When met with during the summer, amongst sheep on pasture lands, it has always been, first, on such lands as are of a weak moory character, and which in all probability have been lately undergoing considerable alteration from cultivation, and under conditions where the animals have been retained upon this kind of soil for an exceptionally long period without change: conditions which, whenever occurring, are exceedingly liable to produce a variety of serious diseases amongst sheep. Secondly, on meadow, or old grass pastures which have been excessively irrigated, or where, owing to an exceptionally moist season, an extra crop of rank immature herbage has been the natural result.

By far the most serious manifestations of Anæmia, however, are to be looked for during the winter and spring. Firstly, when sheep are folded and feed exclusively upon turnips grown

on weak moory land, particularly if this has been lately reclaimed; secondly, when sheep, being deteriorated in health from their summer feeding on rank meadow or other grasses, are placed for winter keep on root-crops alone, corn and cake being withheld; and thirdly, amongst breeding ewes at the period of lambing, when these have been kept and fed pretty closely upon winter-growing grass on lands in rich manurial condition. The damage done to this class of stock is somewhat different, or rather it is brought about in a manner somewhat different, from what we observe in the former. Amongst breeding ewes serious consequences seldom occur, and even suspicions of danger are rarely entertained until the period of parturition. This tax upon the vital power and energy of the animal is in such instances too much for the system to overcome, and fatal exhaustion very rapidly sets in. Serious though the loss of the ewe is, it is, however, not the whole loss; for the lambs of those mothers which succumb in this manner are, as a rule, so weakly, that no amount of attention is sufficient to save their lives. They have most certainly suffered during intra-uterine life; this is evidenced by the diseased and imperfectly developed condition of organs and tissues, and the tendency to blood extravasations and other unhealthy conditions of the circulating fluid.

Although it is a tolerably well-ascertained fact that sheep, particularly the younger ages, are pretty certain, if confined for a lengthened period to feeding upon turnips grown in the class of lands already indicated, to be large sufferers from Anæmia—rarely, however, complicated with any visceral organic disease—it is at the same time deserving of notice that a similar anæmic condition does occasionally present itself in the same class of animals feeding upon turnips grown upon lands of a very different and superior character—in fact, upon any or every kind of soil. Under these latter conditions I have, however, observed a decidedly marked tendency, in all fatal cases which have been examined, to structural alterations in the liver: a condition which may be said uniformly to exist in ewes feeding upon fresh and growing winter grass, where the same anæmic state reaches its crisis at the period of parturition.

As regards the period of time required for the full development

of unmistakable symptoms of Anæmia, it is deserving of notice that it seems capable of being produced with the greatest rapidity in young animals which become affected while feeding on turnips; a few months' tolerably close confinement to roots grown on reclaimed moor land, being sufficient to produce in sheep thus circumstanced undoubted evidence of Anæmia and exhaustion, which, if not attended to, will shortly in many cases, terminate fatally. Amongst ewes, again, where complicated with structural alterations of the liver, and terminating fatally at parturition, I am inclined to believe that it requires more than one season's exposure to the influence of those peculiarities of diet which have been indicated as productive of the disease, before fatal results in large numbers are likely to ensue. Before this termination is reached, however, it may generally be anticipated; the most unmistakable evidence being obtained during the previous lambing season, the ewes previous to this parturition showing a want of vigour, and after the accomplishment of the act requiring a much longer period than is ordinarily needed by perfectly healthy animals for the establishment of a healthy reaction. Coincidently, the same absence of natural vigour and stamina is observable in the lambs. They may be full-sized, but they are soft, their whole system seems to be deficient in tone and healthy development, and they are more amenable to any adverse influences which they may encounter.

This condition of Anæmia without appreciable organic lesion, or as seen accompanying hepatic disease, has no doubt been long known to stock-owners and shepherds, and by them spoken of under the name of "Blood-rot." It certainly bears a very close resemblance, both in the symptoms exhibited by the animals during life, and in the appearances and alterations which tissues and organs show on examination after death, to the symptoms and *post-mortem* characters of the disease commonly termed "Rot," and usually associated with the presence of parasites in the liver. And it is probable that this resemblance, particularly the obvious lessening in quantity of the blood, and its altered physical characters, have conferred upon it the term: this similarity of names unfortunately operating as a source of much confusion.

ETIOLOGY, ETC.—Although it is tolerably certain that the causes of Anæmia in the different classes of sheep affected, must be looked for in the nature of those materials which form their food supply—that they are essentially dietetic; yet in the great majority of cases it is equally certain that an explanation of the exact *rationale* of the process by which these articles of diet produce their results is rather difficult to explain, so as to be perfectly free from objection.

In those manifestations of Anæmia in young sheep feeding upon grass or turnips grown on what are known as "weak" or "moory" lands, there appears to be, in the materials received by the animals as food, a want of certain of the more nutritious or tissue-building materials of diet. This want, however, is not very obviously brought out by any examination—chemical or otherwise– of either the grass or roots serving as food, or of the soil from which these are produced. Still, it is perfectly possible that upon this, as we are apt to imagine, trivial difference of an excess of moisture in the food materials, and consequently lessened per-centage of flesh-forming and heat-producing constituents, and in the soil of a want of salines, or in some instances of an excess of mineral salts, may depend the imperfect manufacture and elaboration of that fluid upon which all structures depend for their sustenance and life—blood. The period of time which land of this character may have been under cultivation, and its condition of manurial richness, although materially influencing its powers of producing various diseases amongst sheep through the medium of the plants grown thereon, and which are used as food, do not seem to have much or any influence in determining its capabilities of inducing Anæmia.

With regard to grasses grown under the conditions of excess of moisture and extra stimulation, and their relation to the maintenance of healthy function in the animal body, it would appear that, in addition to their unfitness for the manufacture and elaboration of healthy blood, their continuous indigestion by the creature predisposes to, or actually induces, a weakened and altered structural condition of the liver, with, of course, a loss of natural secretory power.

Whether in these cases this hepatic disease always precedes

the general anæmic condition, and ought to be regarded as its immediate cause, or whether it proceeds side by side with it, and is merely a part or the outcome of the same perverted process of assimilation, is rather difficult to say. It is certain, however, that in all fatal cases of Anæmia occurring under certain conditions, the liver is the organ in which appreciable structural changes are mainly to be encountered; the extent of these changes being also in proportion to the duration of the disease, or severity of the symptoms shown during its development.

In all extensive manifestations of Anæmia occurring amongst sheep, the earliest symptoms are apt to be overlooked or disregarded, more particularly if previous experience has not sharpened observation, and induced the observer to regard with suspicion the conditions under which the animals are placed. The suspicion at first entertained, that the animals are not thriving or laying on flesh as rapidly as they ought to do, is speedily changed to the conviction that there is something seriously wrong with them. At first there is apparently nothing to cause anxiety, and the death-rate is only an average one; in a few weeks, however, with unaltered conditions, the mortality becomes alarming. On carefully examining a stock in which Anæmia is insiduously, but surely, affecting their health, a considerable number of animals will be observed to be unnaturally dry-looking in their wool; they look "tucked-up" in their bellies; they are not consuming the amount of food they ought to do; and when handled, the wool is hard, and wants the usual mellow feel it ought to possess; the skin does not move so freely on the subcutaneous tissue; the animals feel "hard," as the term is, and the conviction is forced upon the examiner that they are losing, instead of gaining flesh.

A few, again, upon whom the adverse conditions have produced effects earlier or more severe, will be noticed as markedly wanting in energy and vivacity; they move after their fellows listlessly, and with an absence of will; they seem rather disposed to be at rest, and are evidently unfit for any considerable exertion. The condition of the digestive organs of many may also attract attention. Some will be constipated in the bowels;

others will be suffering from diarrhæa; but in all probability either of these conditions amongst those severally affected will be of long continuance, as they are apt to alternate. Examined individually, the ordinary symptoms of Anæmia are, as a rule, well marked: weak but rapid action of the heart; a blanched and bloodless condition of the visible mucous membranes; want of muscular power and tonicity, with loss of bulk and rotundity of most of the muscles of the body; and with occasional instances of well-marked local œdema. The condition of general marasmus, although, as a rule, well defined, is certainly in many cases not associated with hepatic disorder as a leading feature; rather ought we to say it is absent. This may be particularly observed in Anæmia in breeding ewes, which proves fatal at parturition. Then it is not a rare circumstance to find many of the animals which succumb showing no wasting of muscular structure nor want of adipose tissue, however much the blood may be decreased or deteriorated. In very severe, prolonged, or fatal cases, there is depravity of appetite, with inability to digest or assimilate the most digestible and nutritive materials; and in many which terminate fatally, cerebral symptoms in the form of coma usher in the last stage.

Amongst parturient ewes, in addition to those indications noted as occurring amongst other classes, the earliest diagnostic symptoms, and those most likely to attract attention, are extreme feebleness during the last stages of gestation, together with great prostration and want of healthy reaction succeeding the accomplishment of the act of parturition. In those cases which terminate fatally, this reaction is never completed, and the prostration is never surmounted, but gradually increases, death seeming to result from coma or syncope.

The pathological changes observable by any ordinary examination of cases of Anæmia which terminate fatally, are neither numerous nor very variable. When unassociated with structural changes in the liver, they are chiefly to be met with in the muscular and circulatory systems. With the former of these, the main features are a deficiency of bulk, consistency, or firmness, and colour; this wasting, although most noticeable in the voluntary muscles, is not entirely confined to these, for occa-

sionally the heart and bowels exhibit the same features. It is deserving of note, that in many cases this wasting may have proceeded to a considerable length in the muscles, while the adipose tissue remains comparatively unaltered. This exemption is often very well marked in older sheep, as ewes, in which hepatic complications are present. The nervous centres, particularly the brain, are generally softer than natural, and in a condition which may be characterised as "moist;" there is generally more fluid in connection with them than is found in the same animals when in the enjoyment of perfect health. These organs are certainly not hyperæmic, nor does the fluid appear to be the result of inflammation, as some have supposed. Occasionally when Diarrhæa has appeared shortly before death, the bowels will give evidence of patchy inflammatory action, with effusion of blood from the minute vessels of the sub-mucous structures. It is the circulatory system, however, which exhibits the pathognomic features of the disease. In every case the most careless observer is struck with the pallor and want of blood in every part of the body. The large veins, which are ordinarily full, will, when cut, scarcely yield as much blood as will suffice to wash the hands; while its physical characters of colour and consistency are obviously enough changed. The usual purple or claret colour of health has given place to one of a dirty brick-red hue; and the fluid is watery and attenuated, with a disposition on the part of the aqueous constituents to separate less slowly than natural from the more consistent materials. In several instances I have noticed in some of the larger veins, as the iliac and cavæ, a state of thrombosis—partial or entire obliteration of the vessel by coagula of decolorised fibrin. That these masses of fibrin are not *post-mortem* results, is most probable, from the fact, first, that they are much firmer than similar coagula found in certain vessels and cavities of the heart, and which we are tolerably certain only originate after, or immediately antecedent to, death; secondly, that they adhere so closely to the walls of the vessel; and, thirdly, that on a more careful examination some portions of them will be found to have undergone certain changes, they being softer and lighter in colour, and apparently undergoing liquefaction.

The liver, in those instances in which this viscus is implicated, will be found somewhat increased in size and weight, more rounded at its edges, lighter in colour, and rather more friable than in health. The intimate change which is here being carried on is most probably one of fatty degeneration of the true cell-structure of the organ.

In the management of stock in which Anæmia has unequivocally made itself manifest, the chief indications to be attended to are correction or change in the diet. This may be accomplished on the lands where the animals are located, by an addition to, or the substitution of a proportion of grains or artificial cake, for the roots or grass upon which they are feeding; or the entire flock affected may be removed to lands of a very different character, where the natural food is not likely to induce this anæmic condition. Even where this is done, however, it will always be found advantageous to give some artificial food. In some instances, also, the addition to these foods of common salt and some preparation of iron—as the sulphate—seems to be attended with good results; certainly so, if the cases have not proceeded too far.

Where prevention is the object, rather than cure, the same indications relative to diet require to be attended to. With breeding ewes we are aware that many are misled, and ultimately suffer serious losses from not carefully considering the conditions of their keep during the winter months, and its relations to the health of both mother and offspring. No doubt, the full and fresh pastures of rich arable lands during many seasons seem not only adequate to maintain the parturient ewe, but also to preserve her in extra good condition. It seems folly, with so much grass, to think of giving artificial food in any amount; while, if chemical analysis is resorted to for information, we are told that the winter-grown grass is only inferior to the best July samples in so far as it contains ten per cent. more moisture, the other flesh-forming and heat-producing materials being in no way diminished. Practical experience, however, tells us that the results of feeding upon these two are very different, and that with pregnant animals, at least, winter-growing grass cannot be largely used with impunity. It will not do even to give

ewes extra food upon full and luxuriant winter pastures until these are much eaten; for the simple reason that the animals prefer this rank herbage, when they can obtain it *ad libitum*, to any other kind of food. It is desirable, and by far the safest system of procedure, that these pastures wherever they exist, and upon which it is intended to keep breeding ewes, be "run up," *i.e.* eaten bare; and that upon them, in this condition, the animals be allowed a certain amount of mixed and cut hay and straw, together with a small proportion of cake, or grains, and bran. In fact, any sort of food; so that they shall not be entirely dependent upon, or permitted to have, an unlimited allowance of fresh grass grown during the winter season on good lands in high manurial condition.

SINGULAR CASE OF SCROFULOUS DEPOSIT IN THE ANTERIOR VENA CAVA OF A COW.

BY J. W. HILL, M.R.C.V.S., WOLVERHAMPTON.

I HAVE sent you per train, the heart part of the anterior vena cava and portion of lung of a cow slaughtered to-day. As I have never seen or heard of a similar case, so far as the condition of the vena cava is concerned, I thought it sufficiently interesting to claim a space in your valuable journal.

On Saturday, the 25th September, I was requested by J. C. Major, Esq., of The Bhylls, to visit a cow which for some time had been ailing or falling off. I found the animal down, exceedingly emaciated, and unable to rise—at least, the united efforts of a youth and myself failed to make her stand, though he observed she could if she liked. Her pulse was slow and feeble, breathing a little hurried, horns and ears hot, and the extremities moderately warm. As Mr. Major and his bailiff were from home, I left a diffusible stimulant, and called again on the following Monday, when I found her still lying and unwilling to rise. With the aid of several men she was lifted up, and I then discovered she was very lame in the near hind limb, and in attempting to move exhibited great pain. The stifle was considerably enlarged, also

the point of the hip, and it was stated she never lay on that side. Her fore limbs above the knees were also swollen and sore.

I was informed that her time for calving was the 4th of September, but that she had "slipped" her calf when five months gone, and since then had gradually wasted. She had been observed to be lame at intervals; in other respects she had appeared to her attendants to be healthy, *i.e.* so far as retaining her appetite, chewing her cud, etc., went.

I diagnosed it to be a case of Scrofula, and considering her emaciated condition, and the time she had been ailing, together with her pain and lameness, I advised Mr. Major to have her destroyed. This was done the following morning.

A *post-mortem* examination revealed tuberculous deposit in the portion of lung sent you; the remainder was free. On separating the heart from its attachments, I noticed an oval hard substance proceeding from the right auricle, which on further examination proved to be the anterior vena cava distended by some hard internal body. It was divided longitudinally, and within it, scarcely half-an-inch before it opens into the auricle, was a tumour the size of a hen's egg; its capsule, which was attached to nearly two-thirds of the circumference of the vena cava, was thick and brittle, and retained its shell-like form when emptied; the walls of the vena cava at that part, you will observe, are considerably thickened and cartilaginous in nature. I have preserved the specimen as much as possible for your inspection, by replacing some of the escaped matter, and enclosing the divided parts with stitches. With such a limited space for the passage of blood at this important situation, and in a vessel of such magnitude, which has to return the blood from one-half of the body, and that the most vital half, it is a marvel the animal existed so long. Whether the substance would have eventually broken down and given rise to similar deposits elsewhere, or by increasing in size have blocked up completely the vessel, and caused death, is a matter for speculation. I am inclined to think the latter would have been the *finale*. On examining the heart, I found the valves at the auriculo-ventricular openings diseased, particularly the tricuspid, on which was deposited scrofulous matter similar to that found in the vena cava; but

beyond opening the right auricle, I left the organ entire for your better inspection. The remaining viscera exhibited no signs of disease. On external examination of the body with reference to the lameness, I found a large accumulation of pus in the stifle joint, with scrofulous degeneration of the surrounding tissues, and the same condition without pus at the point of the hip. The muscles and tendons above the knees were enlarged and dark in colour.

I should much like to know if any of your numerous readers have, in the course of their experience amongst scrofulous cattle, met with a similar condition of this important blood-vessel.

Professor Duguid courteously furnishes the following notes on the parts forwarded by Mr. Hill:—

Tumours of blood-vessels are very rare, and the specimen sent by Mr. Hill proves a most interesting one on account of

1. Its situation and size;
2. Its structure and mode of growth; and
3. Portions of the tumour undergoing retrograde change and breaking up.

Situated in the canal of the anterior vena cava, about half-an-inch from the auricle, extending along the wall of the vessel for a distance of three and a-half inches, and measuring two and a quarter inches at its thickest part; the tumour must have proved a very serious obstruction to the flow of blood where no collateral circulation could be established to compensate for the diminished calibre of this important vessel. The tumour, when examined microscopally, was found to consist of dense interlacing bundels of unstriped muscle, and had evidently grown from without: that is to say, from the muscular coat of the vessel; it had pressed inward the internal coat which, thickened and altered in structure, still covered it. This was clearly shown by the fact that along the borders, and spreading on to the surface of the tumour for about one-eighth of an inch, the internal coat of the vein was healthy.

The capsule of the tumour, referred to by Mr. Hill as thick and brittle, consisted of the altered and diseased portion of the

internal coat, which had been subjected to the greatest amount of pressure.

A mass of granular material of variable thickness, and at some points extending deeply into the structure of the tumour, showed that the tissue was breaking up in what appeared to be the oldest part of the new growth.

The deposits on the tricuspid valve were loosely attached to the surface, and could be easily removed, leaving no trace of any infiltration of the tissue of the valve; they appeared to consist of the detached portions of the flaky and brittle internal lining of the vena cava, held together by fibrinous coagula.

The portion of lung referred to contained several masses of caseous deposit, around some of which pus was formed.

PECULIAR NERVOUS ATTACK IN A COW, PROBABLY DUE TO THE REMOVAL OF HER CALF.

BY A. G. ROLLS, M.R.C.V.S., ARUNDEL.

THE following peculiar case in my own practice, together with that published by a French colleague (*Recueil de Méd. Vét.*, September, 1874), seems worth recording. So far as my memory serves me, I remember no similar case in English Veterinary publications, and from the tone of the remarks in the *Recueil*, French literature seems scarcely richer.

In the evening of January 12th, 1874, I was sent for in great haste to visit a cow at W—— B——. On my arrival, I elicited the following details from the cowman. The animal was five years old, had calved about a fortnight before, during the night, and had eaten her "cleansing." She had gone on favourably until the last day or two, when, as she seemed rather poorly, he had given her a "red drench," which had not, however, purged her. She had also recently been turned out into a fresh piece of grass, while it was covered with white frost. *Her calf had been removed the night before.*

I found the cow presenting the following symptoms:—Very wild excited expression; eyes staring; ears warm; pulse full,

rather strong and quick; jaws continually moving, as if in the act of biting; frothing at the mouth; the under part of the tongue purple and livid-looking. The movement of the jaws cannot be stopped by attempting to hold them together. When left quietly to herself, she continually gnaws her fore legs, without, however, making a wound; when interrupted, she will gnaw the manger, the woodwork of the place, or anything presented to her. Thus, if hay was offered her she would seize it, masticate it with the continuous and violent movement of the jaws, and swallow it. When offered to her, she also swallowed some sloppy bran-mash and chilled water. Although she has eaten nothing the greater part of the day, she looks full; and there is the peculiar sour smell often met with in cows suffering from gastric derangement, but specially when it occurs shortly after parturition. The bowels are in fair condition.

The impression left on my mind at this period was that the cow was suffering from gastric derangement, and that the nervous phenomena depended on, and originated in, that disorder.

Treatment:—Venesection from the subcutaneous abdominal vein, to the extent of a gallon. Administer extract belladonna ʒij., to be repeated if necessary; ol. lini, Oj.

About three hours after my departure the convulsive movements ceased, and the animal seemed much better.

14th.—Cow much better; no convulsive movements, but there is still an excited expression about her. Gave a dose of ext. belladonna.

15th, etc.—Cow goes on favourably, feeds and ruminates, but copious purgation has commenced; this continuing for two days, I thought it advisable to check it, and for that purpose gave tinct. opii. *cum* pulv. gentian rad. in rice gruel. This speedily had the desired effect, and after two or three days the animal was turned out to grass.

March 9th, 1875.—I was stopped on my morning round to see the same cow. The cowman reports: she calved a fortnight since, has not eaten her "cleansing," as she was closely watched. Yesterday her calf was taken from her, and this morning she was found suffering from a similar attack; the jaws moving in the same way, and gnawing her fore legs, but not so violently.

He had bled her from the jugular vein, and before he left home she seemed easier.

On my arrival I found the cow looking very wild and excited; pupils of eyes normal; ears warm; pulse eighty per minute, full and strong; frothy about the mouth; under part of the tongue livid; grinding her teeth occasionally; the fore legs were wet and covered with saliva from her gnawing them—this she has now ceased. The bowels were in normal condition. Gave her an opiate I happened to have with me; ordered bran mashes to keep her bowels regular. The cow was no further trouble, and was turned out to grass on the 11th inst.

Extract from the *Recueil de Méd. Vétérinaire,* Chronicle (Bouley). "Besides the letter of M. Schaack, M. Tabourin has sent us a very interesting account of an affection simulating Rabies observed in a cow by M. Petrus Robellet, veterinary surgeon at Givors (Rhône), and cured by chloral. This observation is extremely curious; nothing could more resemble Rabies than the affection M. Robellet has so well described, and yet nothing could really be more dissimilar. M. Robellet has shown great clinical tact in not allowing himself to be deceived by such strong appearances, and in applying his successful treatment.

"Here is M. Robellet's account:—

"*An affection in a cow, simulating Rabies, cured by chloral.*—On the 28th of June, 1874, at eleven o'clock p.m., M. Dubost, of Chassaguy, came to ask me to go as soon as possible to attend one of his cows, which was very ill. This cow had calved on the 24th of the same month; parturition had taken place normally, and nothing had been noticed afterwards to indicate either suffering or disease. On the morning of the day I was called, she refused to eat at pasture; the attendant noticed that she left the other animals, and constantly licked her fore legs. In the cow-shed she would take no food, and licked herself until about eight o'clock p.m. She then appeared restless, and bit all the things surrounding her. On my arrival, the owner showed me a medium-sized cow, four years old. I approached her cautiously, and found that she really bit her manger, her rack, and food, which she allowed to fall again on the litter without masticating it; she also seized her breast and fore legs, but

without breaking the skin. I tried to ascertain the state of the pulse, and did so without difficulty, the cow apparently not noticing me; the artery was full, pulsations sixty per minute; the eyes, unnaturally open, were red, fixed, haggard, and the pupils dilated; the buccal mucous membrane was slightly inflamed, a frothy saliva surrounding the borders of the lips; respiration was not troubled, the respiratory movements being regular and about twenty per minute. At times the cow stretched out her fore parts, bellowed, pawed the ground with her fore feet, and seemed to defy an invisible enemy. Taking advantage of her placing herself in one of these attitudes, I held a prong-handle to her; she seized it frantically and bit it, shaking her head violently.

"These symptoms caused me to suspect Rabies. This, in fact, was the diagnosis I gave, and I asked the owner if a mad dog had not been seen in the neighbourhood. His distinct denial, and the assurance with which he declared his cow had not been bitten, slightly embarrassed me. Nevertheless, I doubled the chain she was fixed by, separated her from the others, and then thought of treatment. I had read, some days before, the researches of M. M. Horand and Peuch on chloral; I remembered M. Peuch's experiments with it in Canine Rabies; and notwithstanding his failures, relying on the well-known efficacy of this drug against any form of nervous excitement, I administered an ounce and a half (50 grammes) in two drenches of tea. I gave them myself, one a quarter of an hour after the other, taking care to administer them gently, in order that the liquid might go directly into the abomasum, and the effect be prompt. Several minutes after the administration of the second drench, the cow, which had continued showing the same symptoms, hung her head, and without staggering, fell like an inert mass on the ground, then rose at once of her own accord. Ten minutes after, the same occurrence took place; the cow again fell suddenly, but she at once jumped up again. The animal remained in the same excited condition. I left her about two o'clock a.m. The next day, at ten o'clock a.m., I returned, but what was my astonishment to find that all the alarming symptoms of the night before had disappeared; the cow was lying on

her near side, and was peacefully ruminating. On my entry she rose and began to eat her litter; there was no fever; the expression of the eye was mild, and apart from slight weakness and prostration, the cow might have been considered cured. The owner told me that half-an-hour after my departure she appeared to suffer less, and not so frequently; then having fallen a third time, she became drowsy, and remained lying about three hours, after which she rose apparently well.

This observation is interesting in several ways: first, what disease had I to deal with? Rabies alone presents the symptoms described above. The cow, however, recovered, and this diagnosis must therefore be false. Was this nervous excitement dependent on epileptic vertigo, or simply nervous lactation? We doubt it. Can we ascribe it to acute Enteritis, or to any poisoning, or to both these? No. There was neither Tympanitis, Diarrhœa, nor Colic. One fact is certain, that it was a disease greatly resembling Rabies, yet not really it. Who can assure us that something similar does not exist in the dog? If it does exist, may it not account for certain cases of spontaneous Rabies? Dogs with attacks analogous to those of Rabies are at once destroyed; and inoculation not having been employed as a test, and it being nearly certain that the animal has not been bitten, cases of spontaneous Rabies are reported, which really only resemble it. This observation also shows the efficacy of chloral. The dose of an ounce and a half was not sufficient to produce sleep; but the prostration of strength and the drowsiness were favourable to recovery. My father, veterinary surgeon at Briguais, now an old practitioner, tells me that during his long experience he has only met with two cases of this singular affection; the subjects were also cows newly calved; both recovered, but more slowly, doubtless owing to his not having at his disposal so powerful an anæsthetic as chloral."

Remarks.—The two preceding cases will, I think, be at once admitted to be identical in their nature. In my patient's first attack, gastro-intestinal derangement was no doubt present for some few days before the nervous affection appeared. That such was the case is shown by the symptoms, sour smell, slight tympany, the excessive purgation on the third day, which was

totally out of proportion to the amount of aperient medicine given, also the cowman's statement that she had not seemed very well for a day or two. On the second occasion, not the slightest gastro-intestinal derangement could be detected, and the transition from health to disease appears to have been sudden.

In M. Robellet's case, no symptoms of derangement of the digestive organs were noticed, and in his speculative queries as to the true nature of this affection, he appends to that special question a strong negative. We may therefore, I think, conclude that the view I first took of the affection being connected with derangement of the digestive apparatus is erroneous, and that its true nature consists in extreme nervous excitement caused by the removal of the calf.

The breeder informs me that she showed no symptoms of any disease, nor any special excitement, after her previous calvings, and was sold by him, with calf at foot, to present owner early in 1873.

Should this number of the *Veterinary Journal* come under the notice of our French colleague, it would be interesting to know if the calves had been removed a short time before in his own and his father's cases.

CASE OF RUPTURE OF THE COLON, WITH REMARKS.

BY "CYCLOP."

RUPTURE of the bowels in horses, in my experience, occurs rather frequently; and as I have not seen many cases recorded, I have been induced to forward the following—although it presents nothing very remarkable—for insertion in your valuable Journal.

The animal affected was an aged cart gelding, in good working condition. On Tuesday, September 14th, about half-past one o'clock, he was observed, while at work in the cart, to show signs of colicky pain. He was immediately unharnessed and

walked to the infirmary, a distance of about five or six hundred yards. When he arrived, the pain had become so acute that it was with the greatest difficulty he was kept on his legs while an antispasmodic draught was administered, and his abdomen rubbed with a stimulating liniment. I saw him a few minutes after these remedies had been applied; he then had ceased trying to lie down, but hung his head, seemed dejected, and trembled, more especially at the flanks; his breathing was quickened, pulse sixty, and the visible mucous membranes but little injected. As the surface of his body felt cold, although his neck, sides, and flanks were wet with perspiration, a cloth was thrown over him, and he was left for a time. On visiting him again about four o'clock, I found he had broken out into a most profuse perspiration, which was trickling down his face, and running down his legs in small streams. The trembling had ceased, his eye appeared sunken, and the expression of his countenance was that of great agony. The breathing was very much hurried, pulse ninety, and scarcely to be felt at the jaw. There was slight tympany, and he seemed unwilling to move; in fact, he had not stirred from the corner where I had left him. Judging from the history of the attack and the present symptoms, that a rupture of the intestines had taken place, I explained to the owner the hopeless nature of the case, and for his satisfaction another draught and enema were administered,—the latter being quickly voided, with much straining and groaning. He was also dried and otherwise made comfortable. There was little alteration in the symptoms up to his death; his breathing seemed more distressed, cold sweats kept breaking out on him, slimy mucus hung from his mouth, the tympany increased, and he occasionally groaned as if suffering intensely. Towards the last he began to reel and stagger round the box, resting his head on the manger or against the wall, as if to keep himself from falling; finally he fell, and after a few gasps and struggles died, having been ill nearly eight hours.

The autopsy, which was made next morning, revealed a small quantity of food and about a gallon of fluid in the cavity of the abdomen. The peritoneum was reddened and inflamed, and there was a rent extending about six inches across the colon, at

its anterior curvature. The mucous coat of all the large intestines was also slightly inflamed. The stomach contained about a quarter of a peck of well-masticated food; the small intestines were almost empty, but appeared healthy. There was a little food in the cæcum, and there was rather a large portion in the colon: mixed with it, but chiefly lying on the surface next the mucous membrane, was a great quantity of maize, quite whole and very hard. The other organs, abdominal and thoracic, appeared healthy. From the owner, who witnessed the examination, I learned that the animal was generally fed upon hay and green clover, cut and mixed with bran, and maize which had been steeped in water for twenty-four hours; and also that he had, on the previous Saturday, given him a bran mash, in which some maize that had not been steeped was mixed; the maize had evidently been swallowed whole, and this I think was the cause of the animal's illness and death. He further added, that the horse was not a greedy feeder, and he had never seen him pass any maize or oats whole: his molar teeth appeared all right.

A very important and obvious lesson to be learned from this case, and it is one pretty generally known, is to prevent horses swallowing their food whole: I refer to oats, beans, maize, and the like. Bruising or crushing these seems to answer very well, and is generally adopted. Mixing with chaff is also a good plan; and with regard to maize, steeping in water to soften it is a system which may easily and cheaply be adopted. I have frequently observed, with reference to oats (and judging from the foregoing case, the same thing appears to be true as regards maize), that when they are mixed with a bran mash, the horse does not masticate them, or at least very few of them, as large quantities may be seen in the fæces quite whole the next day. And this occurs in horses whose molar teeth are in excellent order, and who grind their oats well, when given to them alone or mixed with chaff.

There may be some difference of opinion as to what is the immediate cause of rupture of the bowels, and I should like to see the matter discussed in the pages of the *Veterinary Journal*. For my own part, I cannot imagine that the lesion is caused by

the animal getting up and down, or throwing himself violently about during paroxysms of colicky pain, as a large proportion of cases with these symptoms recover; and I have never found such a lesion in the *post-mortem* examination of any of those that died, and who had exhibited indications of the most violent pain and great tympany during their illness. Further, I have seen several cases of rupture of the intestines in which no colicky pains were observed at all; the animal never lying down, nor attempting to do so, until its death. Violent exertion, such as pulling a heavy load uphill, may occasionally be a cause of rupture of the bowels, and I have heard of cases in which this has occurred; but I consider that the peristaltic action of the intestines themselves, under certain conditions, is sufficient to produce it. There are several circumstances which seem to favour this view of the case; and without entering into a minute anatomical description of the colon (which in my experience is the intestine most liable to rupture), I may remark that the arrangement of the fibres of its muscular coat appear to me favourable for causing a rupture. We may readily imagine, when viewing its sacculated appearance,—caused by the bundles of longitudinal muscular fibres, how easily the violent and irregular contraction, or possibly relaxation, of these would cause a small transverse rent in the bowel—more especially when the mucous coat is weakened, and the contents of the intestine hard. The tear would speedily become enlarged, from the food being forced through it by the contraction of the other parts of the bowel. I have never been able to discover any traces of pre-existing disease in the portion of intestine torn. Feeding upon grass has some influence upon the bowels, predisposing them to rupture; as in four out of five cases seen, the animals had all been fed almost exclusively upon it.

In conclusion, I do not consider that cases of rupture of the bowels can always be readily or accurately diagnosed. They generally prove to the young practitioner rather puzzling; the distressed breathing, and the absence of any of those symptoms which are usually associated with abdominal disturbance, are apt to mislead, and cause him to suspect some affection of the chest. I have known tolerably acute practitioners so misled. But the

history of the case, the sudden development of the symptoms, the rigours, the copious perspiration, or the cold sweats, the state of the rectum, the pulse at first not much disturbed but very quickly becoming rapid and feeble, the negative results obtained by auscultation,—all these will help him in forming a correct diagnosis of a desperate case, which might have been prevented, and the termination of which is unsatisfactory to the owner and sometimes to the practitioner himself.

THE SO-CALLED TYPHOID FEVER IN PIGS.

BY W. H. JONES, M.R.C.V.S., BRIDGEND, S. WALES.

SINCE I sent you my last paper on this subject, I have had the opportunity of seeing some small pigs, the victims of this disease. On October 12th, I was requested to visit some pigs at a farm some few miles distant, where two valuable boars and a large sow had lately died, the person who attended them stating that they had been poisoned with vitriol. On my arrival, I found that four out of sixteen were already dead; the others presented a most deplorable spectacle. They were all huddled together in one corner of the sty, and did not care to move; they were very weak, and appeared to be in pain when made to walk. When touched, they made a most peculiar noise, more like the bark of a dog than the ordinary squeal of a pig. The eruption was not very distinct, on account of most of the animals being of a black colour; in those of a black and white colour it was more visible. In a few hours after being noticed to be ill, the breathing became laboured and stertorous, the animals presenting unmistakable symptoms of Pneumonia. They were all more or less affected with Diarrhœa, the fæces being black and fetid. The surface of the body was cold, and the tips of the ears of some were quite hard and bloodless. Previous to death, the tip of the nose and round the mouth assumed a purple hue, and a swelling was observable about the region of the parotid gland. The appetite was gone, and when drenched with gruel there was some difficulty in swallowing. I

made a hurried *post-mortem* examination of one that died just before I arrived, and I observed, on opening the chest, that the lungs were of a very black colour, and when cut into, the blood that oozed from them was of a very tarry consistency; the trachea and bronchial tubes were filled with a thick white mucus, which was of a very tenacious character. The intestines presented nothing abnormal externally; but on examining the lining membrane, I found it studded with patches of ulceration, more especially in the small intestines. The lining membrane of the stomach was considerably congested, but there were no signs of ulceration.

Since the above date, twelve more have died; and as it is somewhat common and extremely fatal about this neighbourhood, I have sent you the only one I was able to get possession of, and would feel greatly obliged if you would furnish me with the particulars of your examination, and also state what is the best method of prevention and treatment, as the loss to some of the farmers is becoming serious.

[The carcase of the pig, so kindly furnished by Mr. Jones, was examined at the Brown Institution by Professor Duguid and Dr. Klein. The first-named gentleman reports that it was a most marked case of the so-called "Typhoid Fever," the whole of the large intestines being thickly studded with well-defined dirty-looking sloughing ulcers. As usual, the stomach and small intestines were very slightly, if at all, affected; there was trifling peritonitis, and at several points the peritoneal surfaces of the viscera were becoming adherent to each other. With regard to the skin eruption, no resemblance could be traced between it in this case and that in those referred to at page 269, Vol. I. of the *Veterinary Journal*. After carefully removing the hair, there appeared to be very little, if any, of the cuticle removed; whereas in the previous cases, the cuticle was peeling off *en masse*, and when examined microscopically, the papillæ of the skin were found denuded, and in many places scarcely an epithelial cell left on their surface. Professor Duguid is of opinion that the two diseases are separate and distinct.

Dr. Klein takes the greatest interest in the subject, from its connection with his recent and most valuable work on the

"Typhoid Fever" of man. He is extremely anxious to investigate it thoroughly, and in order to do so some living diseased pigs are necessary. Any of our friends, therefore, who have an opportunity of sending one or two to the Brown Institution, Wandsworth Road, will confer a great obligation, and materially assist in elucidating the nature of the malady.

With regard to treatment, prophylactic and therapeutic, the food and water should be carefully looked to, and the sties kept scrupulously clean. Disinfectants, such as Calvert's "Powder," should be used in those menaced or already invaded by the disease; and the pigs yet to all appearance healthy should receive, daily, a small dose of Calvert's No. 4 Carbolic Acid. The diseased should receive the same anti-zymotic remedy, and small doses of Ol. Terebinth; the state of the bowels ought to be carefully attended to. Ferruginous and vegetable tonics may be advantageously given when recovery is taking place. If constipation is present, small doses of castor oil may be given. Turpentine liniment should be applied to the abdomen.]

CONTAGIOUS PLEURO-PNEUMONIA IN IRELAND AND NORFOLK, WITH A FEW OBSERVATIONS ON THE METHOD OF INSPECTION IN IRELAND.

BY W. A. COX, M.R.C.V.S., ASHBOURNE, LATE INSPECTOR, IRISH VETERINARY DEPARTMENT.

(*Continued from* p. 348, vol. i.)

PROFESSOR FERGUSON acknowledges, in his report upon the *collected* facts of Mr. Chambers, elaborated after his official tour of January, 1875, that these tended to confirm the statement so frequently made, that Irish cattle disseminated disease in England.

As this was a reflection upon his Department, and might lead to enquiries that were not desirable, it required amendment. Consequently, he falls back upon a communication received in December, 1874, from Messrs. Verdon and Cullen, of Liverpool.

It should be noted that Mr. Chambers' tour was one month *after* the receipt of this letter. Probably he was not then *instructed* upon it, as he did not in his first report notice its subject-matter. Was the amended report entered to save the credit of the Department, and to show a clearer knowledge of the subject? And was not the information of Mr. Chambers set forth in the amended report, the result of knowledge of the Norfolk method of feeding, obtained prior to his appointment to the staff, and not that obtained in his official tour? There is one part of Messrs. Verdon and Cullen's letter which should be considered. It states that "200,000 Irish cattle pass annually through the borough (Liverpool), yet there are *no* (?) cases of disease." The good faith and veracity of these gentlemen is unquestionable and unimpeachable; but I am convinced that this *sweeping* statement is made upon hearsay evidence, or "collected facts." Although most extensive salesmen, *all* Irish cattle do not pass through their hands; and even those that do, in their capacity, receive but a cursory examination, quite insufficient to determine the existence or non-existence of disease. Had they said that but few cases of disease occurred, the statement might have been accepted without reservation. The *amended* report of Mr. Chambers verifies and supplements this statement, and he throws, as far as he can, the blame of these outbreaks upon the system of feeding in Norfolk.

With previous knowledge of the existence of these causes, it is surprising that no mention of them occurs in the original report; that statement, to a considerable extent, even with Mr. Chambers' cautious wording and tortuosity, pointing to Irish cattle as the cause, and through them throwing a reflection on the Veterinary Department.

This would not do, especially as there was such a loop-hole provided as that mentioned by Messrs. Verdon and Cullen; so Mr. Chambers had to compile another report.

In this he either goes too far or not far enough; he is amongst the breakers, and although the director is *facile princeps*, he will need all *his* support under the circumstances to guide him through them. In common with *all* the Department, the framers of these reports are lost in a labyrinth of doubts; they insinuate

that the disease *may* be developed without infection by Irish cattle, but they do not say how. Why do they not take a determinate position, and assert that it can be, and is, generated in animals without contagion; and that Irish stock not recovered from the fatigue and excitement of transit, are naturally more subject to such influence, especially as existing in Norfolk, than are the home or seasoned animals?

It is natural that the Department should laud the sanitary condition of Irish stock; but as they are not cognizant of the amount of disease that exists, this laudation is of little value.

What says the correspondent, "Five Points," on this subject, in the *Veterinary Journal?* "If any person is anxious to know if Pleuro-pneumonia exists in Ireland, it is only necessary to walk past the various butchers' shambles in order to satisfy himself;" and immediately previous he stated "that things are now very quiet in Ireland." This fully endorses my assertion that for the purposes for which it is appointed the Department is useless.

Despite Mr. Chambers' affirmation, so confidently made, that the second lots of Irish cattle brought into Norfolk,—and not subject to the system of feeding in boxes, but turned on stubble and in straw yards, scarcely ever suffer from the disease,—there are numerous outbreaks, and without their having been in contact with affected animals after their arrival in that part of the country.

Doubtless, some of these cases originate *de novo* in Irish cattle from causes in operation after they have left their home pasture, —most active during transit,—but on this subject the Department are, for sufficient reasons, silent.

But spontaneous outbreaks cannot be urged as palliating in any degree the direct violation of the law and neglect of duty, seen in allowing animals that have been in contact with those diseased, to be shipped.

Although enquiries are spoken of as dispassionate and impartial, they are so only in a staff sense; and it cannot be expected that attention will be given to disease or loss accruing from their negligence. No! rather attribute it to any other cause.

Subject to the absurdities of the Irish inspection and the improper and unequally regulated measures of the English, the Irish exporter has substantial cause for complaint. Take for example, an Irish grazier who exports his own cattle; his animals are sent from the home pasture—often some distance inland—to the nearest port, we will say to Dublin. The animals are healthy, or they have been near those suffering from disease, or it has existed in the district. They are taken in trucks to the port; previous to embarkation they are inspected in the manner mentioned by "Five Points;" and often animals are brought after dark, and rushed through the gangway in the ridiculous manner he mentioned. There may or may not be a light; I know none was supplied by the Department, and it was only by favour that it was obtained.

If the animals are shipped in the day-time, they may or may not pass the inspector, considering that he is probably young and inexperienced, and he is liable at such a cursory examination to seize animals that are free from contagious disease. In this case the owner, conscious of no wrong, and knowing that they were healthy when they started from home, neglects to obtain a *non-official* veterinary opinion; and thinks that "on its merits" he will be cleared from blame, and his animal restored to him. But he finds to his cost, that he is mulcted—for what else can it be termed—of £20 and costs; and his animal lost to him, for it would not be to the credit of the staff to restore it, if they discovered they were mistaken. This can be illustrated. We will suppose, however, that the herd have passed inspection, and are shipped; but on their arrival at Holyhead or Liverpool, some are found diseased; these are seized, the exporter loses them, and is mulcted in fine and expenses, and for what reason? None that can be justified. Is this justice? I answer, No.

This undue pressure on the exporter can be easily met. Previous to herds starting from pasture, they should be inspected, whether going to fairs, markets, or for export. Where no disease exists, a certificate showing the number of animals, and other particulars, should be given to the owner. This might be endorsed, if for export, at the port of embarkation, and again on landing; if any animal became diseased

during transit, the production of the bill of health would exonerate the owner from blame. And any measures adopted with regard to the animals should be at the expense of Government. *By this system, solely, can animals be traced, and the extension of disease prevented.* It may be said that this would cause "bother." If there was any method in the Department, it would not. I admit that it would entail the employment of more inspectors; but so long as Government is "penny wise and pound foolish," so long shall we have a continuance of the present muddle.

The system of moving cattle by bills of health is much superior to the establishment of *abattoirs* at all ports of disembarkation, and would cost less money. The loss to the importer by the latter system would be considerable, and would necessitate a great and expensive change of custom and market.

Just a few words relative to the Irish veterinary inspection staff. Many of their *collected* facts are obtained from the police, a body possessing the entire confidence of, and consequently much esteemed by, the director of the Department, who makes the veterinary inspectors subservient to them. So long as his facts are obtained from such a source,—and it must be rembered that this is extra duty for which they receive no pay,—so long will he be ignorant of the amount of disease that exists in Ireland.

But, it will be asked, if the disease is developed *de novo*, will *improved* or any inspection avail in its suppression? The answer is in the affirmative. Although the disease may be spontaneously developed, contagion is the most effective agent in its extension.

A knowledge of the requirements for the suppression of this disease, and of the constitution and management of the Irish staff, will soon convince any one that it is useless for that purpose. There are no examinations for the appointments. Men are appointed possessing no qualification (and even specially recommended by the director). There is no guide or handbook, no instruction on any point. If anything occurs at an outport, the inspector has to communicate with the director for instructions, the animal remaining in the interim on the quay; for at those places there is no quarantine, and there is great difficulty

in obtaining accommodation for an animal suffering from contagious disease.

In the *Veterinary Journal* for November, Mr. Lambert has correctly described the condition of subordinate inspectors. I can verify and supplement his statement; they are insufficiently paid and still worse treated; nor are the salaries likely to be increased when so much is absorbed for duty that might be performed by a non-professional man,—even a clerk at a small weekly salary.

LECTURES ON SOUNDNESS IN HORSES.

BY PROFESSOR FEARNLEY, LATE PRINCIPAL AND PROFESSOR IN THE EDINBURGH VETERINARY COLLEGE.

LECTURE III.

GENTLEMEN,—With your permission I will preface the remarks I have to make on the second part of the examination by a few words on the three methods of performing it; also, on the advantage of going through the movements of the methods we adopt, until by their repetition they are removed from the sphere of thought, and become automatic.

Most veterinarians begin by placing the horse on level ground; after that they adopt one of three methods: either they begin at the nose on the near side and go to the head, then the same on the off side; or they go entirely round the horse, passing along the off side from behind forwards. The third mode I shall not dignify by the name of method, as it is a slipshod proceeding, born of the certainty which accompanies ignorance fostered by idleness or indifference, and ending in either a lucky "fluke," a lawsuit, or professional disgrace. It consists in handling the most important points, and seeing the rest without the aid of touch.

The first method is the one I adopt; relying, as I do, on the superiority of *automatic* movements over movements under the direction of the *will*. The second method involves going through a set of movements, then repeating the same movements in

reverse order. This we should avoid, if we wish to perform automatically. As examples of the superiority of *automatic* movements over those directed by the *will*, I would advise you to go up or down a familiar flight of steps, thinking at each step how to advance your foot for the next; or take an example without the trouble of experiment, and look at those beautiful products of automatic movements—the "honeycomb" or the "spider's web." Such being the case, then, after the movements are perfected by repetition, your examination will be none the less perfect if your thoughts are not immediately dwelling upon each successive step.

Begin your examination, then, by looking at the opening of the nostril, making a speculum of the thumb and index finger of the left hand, and observe the Schneiderian membrane. The notrils are liable to accidents, such as being torn by projecting nails. I saw one the other day so affected; a slough had evidently taken place, and there was much contraction from cicatrisation. In such a case the horse is unsound; because a horse, not being able to breathe through his mouth, requires a healthy pair of wide nostrils when used for speed or heavy draught. Again, from affections of the facial division of the *portio dura*, or seventh pair of nerves, we not unfrequently have paralysis of the nostrils, complete or partial. When partial, it may escape a casual glance, and is only to be detected by be distress shown in a smart gallop, and the noise made under these circumstances. The Schneiderian membrane should not be dry, nor too wet, but bedewed by innumerable drops, and should show no signs of ulceration nor evidences of catarrh.

You next pass on to open the mouth in order to observe the teeth, gums, and tongue. The teeth are noticed most, and you are now to look for the indications of the horse's age as shown by them. It is not my duty now to teach you this; so that I pass on to remark that it is a common trick with "dealers" and others to extract the corner "milk" teeth, to "forward" the mouth. It is evident that, in such a case, you have not the proper corner teeth to observe, but you should notice the signs of youth in those that are left, and be guided more by their appearance than by the general aspect of the horse. Among

others, two signs of extreme youth in the permanent incisors are their shelliness, and the prominence of the gums immediately behind them (*lampas*). Then, again, the incisors should come into exact apposition; "parrot mouth," produced by the upper teeth overhanging the lower, although not an unsoundness, is unsightly. Should these teeth be in perfect apposition, and their edges worn and broken, it may be from "crib-biting," or from feeding out of an iron or stone manger. On finding this condition, you will have to trace its cause. Old horses frequently have the edges of the incisors worn and chipped; but you must inquire about the material of the manger, unless you find, besides the worn teeth, the marks of a cribbing strap that has been worn. The molar teeth we too frequently fail to examine, though, as you have already seen, irregularity in these is frequent, and sometimes interferes with the horse's feeding. The gums between the incisors and molars are to be looked at for evidences of injury by the bit. If the marks are old cicatrices, and alike on either jaw, the horse may be a "puller;" or if confined to one side, it is very likely he has that very objectionable mouth, "hard" on one side. Either condition, if exaggerated, amounts to a dangerous vice, and is therefore an unsoundness. The tongue you can seldom object to.

You next pass your right hand beneath the jaws. The intermaxillary space should be a hollow in which you can lay your hand. We frequently meet this space filled up, so that its surface is "flush," or nearly so, with the under surface of the jaw. This latter condition is usually due to a severe attack of Strangles, or to a mild attack in which the intermaxillary abscess has been badly treated. In such a case we often find an old cicatrix or other unmistakable sign. Now when you come to think that, next to the eye itself, one of the most delicate organs of the body (the larynx) has been it may be for weeks, half, if not wholly, surrounded by inflamed tissue, and involved in the inflammation, you will readily understand how guarded you should be in your examination of the "wind" of such a one for evidences of "roaring." The glands of this part should be normal. A hardened, slightly enlarged gland may indicate disease in the nasal chamber, or in a molar tooth.

Next pass your right hand to the "poll" (vertex of the occiput) gently, and use pressure; there should be no soreness, tumefaction, nor evidence of a strap having been worn. The hand is then passed over the parotid gland, and the end of the second finger should be buried as it travels along the posterior border of the jaw. Inflamed parotids are not uncommon, but almost the same may be said regarding them as was said of the evidence of Strangles; though the larynx, being further away, is less liable to suffer. Calcareous degeneration of the parotids is by no means unfrequent; usually only one is affected, and the subject is aged. Beyond being an eye-sore, this affection is of little or no consequence in itself, though it points unmistakably to the horse being the subject of degeneration in one gland which can be seen, and we have no evidence of its being the only gland affected by degenerative change. However, they are for the most part aged subjects, and so are of less importance.

You now pass your left hand over the course of the jugular vein, and raise it as though you were going to bleed. Distend it to its utmost by keeping pressure upon it for some time. By so doing you see its capacity, also any evidences (cicatrices) of phlebotomy. Besides cicatrices, we have often another evidence of phlebotomy in a sacculated condition of the vein. If there is only one sac or two, their apices should be closely observed for cicatrices. We often find this latter condition without there having been phlebotomy, from unequal power of resistance in the coat of the vein. Prior phlebotomy is of importance locally, as pointing to possible injury to the vein itself; and remotely, as pointing to the cause requiring this operation—such as inflammation of important organs like the lungs, bowels, and feet. With regard, first, to injured vein. The injury may be obliteration, partial or complete. When complete, the vein has a hard, corded feel, and pressure upon it fails to raise (distend) it. I have used the words "complete obliteration," for practically it is so; but in nearly all cases, even the very worst, there yet remains a small irregular channel through which a thin stream of blood meanders. This condition is one of the worst of unsoundnesses, as the subject of it cannot hold down his head to eat or drink without congestion of this part of the body following, from

inability of the remaining veins to transmit the blood with due celerity, except under favourable conditions. Slight obliteration, again, may be felt, or, still better, seen, on trying the capacity of the vein, and should be regarded as an unsoundness ; as at least the elasticity of the vein has gone, and its transmitting powers diminished.

The vein quite sound, yet showing evidences of phlebotomy, should put us on our guard. Why has the animal been bled ? For anything we know, it may have been for acute inflammation of an important organ ; and, as I had occasion during the winter to tell you, of all the causes predisposing to inflammation of a part, not one is to be compared for frequency and effect with previous inflammations. The tissues are altered in some way, and, if I may be allowed the expression, they are never themselves again.

But now, how are we to know for what the horse has been bled ? The feet may plainly show a prior attack of inflammation, but we can have no evidence of a previous Enteritis or Pneumonia ; and I regret to say that I cannot advise you to enquire the occasion for the bleeding, as experience will show you that you will be often grievously deceived if you believe what the vendor has to say concerning the merits of his horse in regard to soundness. For my part, I have found it best to explain very fully to the purchaser, in writing by preference, the whole matter. It is clear that you can do nothing else ; as a horse that has had an acute attack of inflammation in any vital or essential organ cannot be sound for the reason I have named ; yet you may not be able to say where and how the horse is unsound. You know how subject some horses are to periodic attacks of Colic, and what a common remedy bleeding is for it, and how anxious owners are to get rid of such horses, for fear of their having a fatal attack. So that an unmistakable mark of a horse's having been bled from the neck is not to be passed over, although the jugular vein may be perfect.

You next proceed to the shoulder, and look for injuries to the skin caused by the collar ; for atrophy of the muscles occupying the spaces in front and behind the spine of the scapula ; and for evidences of injuries from accident or surgical remedies about

the point of the shoulder. With regard to "collar marks," as they are called, we are too apt to overlook them, or pass over them lightly. About five years ago I was much annoyed with a case. One market day, a gentleman brought into Leeds for my inspection an aged horse that had carried his owner with hounds, to my own knowledge, for some years. The gentleman was selling this horse to one of my best clients. I noticed the collar marks, which I took as little notice of as of the marks on his fore legs, made by timber and stone walls. The horse was passed as practically sound, and I assure you that for the next twelve months he was a constant patient of mine. The collar never went on to his shoulders a third time without making them "raw." Alterative and other treatment for irritable skin proved of no use; so that it taught me this lesson, and it may teach you the same, that there are some horses whose skin will not bear the pressure of harness. Or it would, perhaps, be wiser to say that there are some horses whose skin, to all appearance healthy, may at the same time be so sensitive as to be rendered inflamed and sore by the pressure of harness.

(*To be continued.*)

RUPTURE OF THE STOMACH.

BY J. MOORE, JUN., M.R.C.V.S., LONDON.

A ROAN cart-horse, eight years old, was more than twelve months in daily work in the firm of the largest coal merchants in London, and during that period had never been ill. On October 27th, after coming in from work, he showed symptoms of Colic. Medicine was administered, and he was left apparently quite well at eleven p.m. Next morning at eight he was allowed to drink water, and after partaking of some he dropped down dead.

Upon opening the abdomen, I found more than half-a-dozen pailfuls of water mixed with undigested food. The entire course of the intestines was discoloured, and full of food, and as you will observe, the stomach was ruptured.

(The stomach referred to showed a very large rupture along the greater curvature; otherwise it was healthy. The cause of rupture was no doubt over-distention.—W. D.)

THE POSITION OF VETERINARY SURGEONS.

BY JAMES LAMBERT, M.R.C.V.S., 17TH LANCERS.

(*Continued from page* 322, vol. i.)

IT was not intended to continue, at present, the paper on this subject, but as the writer has received numerous criticisms, mostly favourable, but some of them rather desponding, it becomes necessary to offer the following remarks :—

Comparisons have been made between the veterinary and other professions, and some critics have even said that ours does not pay educated men. It is here most strongly contended, that it well repays any amount of education ; and that, looked at merely from a money point of view, it is, in civil practice, as lucrative and, as a rule, much more so, than many other avocations which receive less public consideration, and yet require good education.

Granted that some occupations are accepted for very small pecuniary remuneration, on account of the social position conferred by them, yet even they are rich in educational requirements. If they were filled by insufficiently educated men, they would now be no more highly esteemed than they were when learning was not thought essential to them.

That "knowledge is power," is a saying almost as old as language itself, and as the world becomes more civilized and enlightened, so does it become more forcible. To no occupation is good general knowledge more essential than to the study of all branches of medicine, and nothing pays so well for the trouble of obtaining it.

If the writer might presume to offer a suggestion to those now studying the profession, whose education happens to be imperfect, he would say that they may do much in instructing themselves. One hour a day will do wonders, and will, should inclination tend that way, confer the great advantage of being able to read a foreign language in less than two years ; many find they can do this in one year, by giving more time to it, and it does not matter at what age this subject is taken up.

Many veterinary surgeons appear to ignore the importance of

their own profession, and as long as they do so, they cannot expect it to take its proper position. They have had good cause for despondency, for its general apathy has been, and still is, most remarkable. The few who have striven in its behalf have consequently been fighting a very uphill battle; it is hoped that their ranks will now be increased by the addition of those who have hitherto been only *passive* well-wishers. Much despondency has arisen from the disunion of the profession, and the want of one supreme, central, governing authority; private interests have had to be preserved, abuses glossed over, and so a state of affairs has prevailed, more worthy of China than of an enlightened European country.

In view of the many important pathological and other discoveries yet to be made, medical science may, with truth, be described as yet in its childhood. It is very probable that many of these researches can be aided, and even actually completed, by veterinary surgeons. Why, then, will they not recognize the importance of their science, and what it will be capable of doing when properly studied and developed?

We read letters, day after day, in the newspapers about the prevailing contagious diseases of cattle. These letters are not written by veterinary surgeons; they often quite ignore our science, and generally make no mention of veterinary surgeons. What would be thought of the medical profession, and what would its members think of it, if two diseases, say, for instance, Typhoid Fever and Cholera, were so rife as to create a panic in the country; that all sorts of wild suggestions for prevention and treatment were readily listened to, and yet that the opinions of medical men were suppressed or passed by? This appears to be now the case with us, as regards Foot-and-mouth disease, and the contagious Pleuro-pneumonia of cattle. It was so, and worse, during the Cattle-plague. The same cannot be said of any other enlightened European country; therefore something must be very wrong when what should be the proper authority is slighted and disregarded.

Veterinary surgeons, because unable to perform impossibilities, are often unjustly blamed in the newspapers; and sometimes false and calumnious statements are made concerning them. It

has been the practice of the writer, and of some professional friends, to reply to such statements as came under their notice, and with the best effect. If this were the custom amongst us, editors would be more careful as to what they published, and would be at the pains of weighing any doubtful statement before giving it insertion. It is therefore earnestly suggested that this be attended to by veterinary surgeons, especially in their local papers, and in the weekly agricultural and sporting press.

It cannot be too much regretted that we are not a protected body. Now any one may call himself a veterinary surgeon, and many disreputable and undesirable persons falsely do so. These men inflict great injury on us, and on those who are so unfortunate as to seek their advice. Cases of convictions for cruelty to animals have recently appeared in the papers, in which *pscudo*-veterinary surgeons figured as defendants. Every effort should be employed to induce the legislature to make the improper assumption of the title of veterinary surgeon illegal.

A most surprising objection to the raising of the educational standard has been brought forward by some veterinary surgeons —that we must not be too fast, but "must do things by degrees." From this it would seem as if they think we wish to do something revolutionary, when we only ask for what is easily obtainable and absolutely necessary. Doing things by degrees has with us meant doing as little as possible; in fact, it has been another way of saying "let us do nothing." No one expects to accomplish too much at once in our profession; the extraordinary and suicidal apathy of its members, regarding their own interest, will prevent that. The profession has been doing things by degrees for the last fifty years, and should it only continue to improve at the same rate as during that time, will yet be half a century before it takes the position it already holds in some continental countries, and which it ought to have now in Great Britain.

Some of the desponding objectors to education say, "But if you educate a youth well enough to pass a preliminary test equal to that of the medical colleges, he will seek something better than the veterinary profession." That is an erroneous idea, for such an amount of education is much too simple and commonplace to give exalted notions.

The standard of education now required for the study of human medicine cannot by any means be called a high-class one. The amount necessary to pass the "preliminary" at the medical colleges is only what any youth of fifteen or sixteen, who has been at an ordinary school, should possess, unless he has been very idle or much neglected. Such an education can nowadays be obtained almost anywhere, either free, as at many grammar schools, or at a small cost in any town. A reference to the list of subjects, as published by the various medical colleges, will verify this statement. There is, therefore, no reason why what is so necessary, and so easily and cheaply obtainable, should not be enforced in veterinary colleges as soon as possible.

In civil practice, our profession offers easy prizes (no occupation more so) for the trouble and expense of well studying it. A moderately fair general, and a very much improved professional, education have now become necessary. When these have been enforced, we shall not find young men obliged to try to master a host of subjects in a period of study very much too short for the purpose, as is now the case at all our veterinary colleges, with consequences lamentable to witness. We shall not see a large number of diplomas annually granted to graduates, too many of whom are ignorant of the essentials of their science; but who have been able, by cramming, to pass an examination of necessity, from insufficiency of time of study, made so superficial as to be quite inadequate as a test of professional ability.

We shall not then see so many young veterinary surgeons quitting in despair their occupation, because they find their professional education quite insufficient for successful practice. We shall not see veterinary inspectors hanging about cattle-boats and markets, with little or no shelter or comfort, and generally treated as of small account, instead as of officials performing what is really a most important public duty. When we hear of an inspector, we shall not be obliged to ask whether he is a veterinary surgeon or a policeman, and find it four chances to one that he is the latter.

It may be added, as some relief to the state of affairs above described, that there are many brilliant and successful veterinary

surgeons; but they do not take the position to which they are entitled, because they are judged by the remainder, and consequently have thus far found themselves and their professional advice neglected in those quarters where it is most desirable to obtain recognition.

It is hoped that enough has now been said to show what a quantity of important work remains to be done, and to stimulate those veterinary surgeons who are anxious for the advancement of their profession, to lend their *active* aid in accomplishing it. In doing this they will be striving for their own interest; for whatever raises the profession generally will also raise the individual members of it.

There is no cause for despair; on the contrary, everything is hopeful, for the public show us they are anxious, and prepared to pay well, for improved veterinary assistance and advice. They, as well as ourselves, have an immense interest in the progress and elevation of our profession. When we have, as a body, shown that we are in earnest in desiring to make it what it ought to be, public confidence will be freely granted to us, and we shall no longer have to complain of undeserved neglect.

In conclusion, it is worthy of particular notice, that although the insufficiency of the period of study is annually remarked upon by the professors of all our veterinary colleges, in their introductory sessional addresses, yet, strange to say, no combined effort is made for its extension.

Editorial.

PROGRESS.

Our readers will perceive from a perusal of the proceedings of the last meeting of the Royal College of Veterinary Surgeons, reported in its usual section, that a new era is at length dawning in the history of veterinary medicine in this country, and that the torpor and apathy which have fettered us for so many years, and which have kept all improvement in abeyance, are about to give place to energetic action in the direction of progress.

Thanks to the wise and advanced views, influence, and business manner, no less than to the promptitude, of our respected President, this year bids fair to be fruitful in great results to the entire body of the profession. With commendable judgment, the Council has sanctioned the publication in this journal of the draft of the Supplementary Charter now under consideration, and we feel sure the profession will appreciate this thoughtfulness, and construe it as a desire to elicit the approval or discussion of this important step before final adoption. Any measure which has for its object the welfare of our body, does not require concealment and mystery.

In the first place, then, this Supplementary Charter, even if granted in a modified form, will confer privileges of inestimable value, and tend largely to place us on a more distinguished and dignified footing as a scientific profession; while it will testify to the public that we are determined to keep pace with the times as a body representing, and entrusted with the development of, a most important branch of medicine and social economy. We shall have occasion to allude to the terms of this supplementary charter on another occasion.

In the second place, a discovery of much value has been made with respect to the charter we at present hold. It is well known to those who have taken any interest in professional politics, that for years the Council has been unrelentingly coerced into the belief that it could not interfere either with the general or the scientific education of the student. Consequently, it has allowed itself to be deprived of a large portion of its influence for good, and made to stand helplessly by while the most glaring abuses and shortcomings, which it should have been its special province to prevent or remedy, prevailed. It has even been admitted by those who have exercised this coercion, that the education of the student is imperfect, the prescribed period of study not so strictly enforced, and the matriculation examination far less stringent than desirable. A recent attempt to interfere with the functions of the Royal College led the President to obtain the opinion of an eminent Counsel as to the powers conferred by our charter; and it now appears that we have suffered ourselves to be imposed upon, the Body Corporate having the power to prescribe the amount and quality of the general and scientific education necessary for the obtainment of its diploma. It is to be

hoped that it will exercise that power wisely and without delay, so as to acquit the profession of the accusations so unfairly made against it.

In the third place, the existence of our University has been recognised for the first time, and in a most complimentary manner, by the Royal Agricultural Society, as we reported in our last issue of the *Veterinary Journal*, in the offer of fifty pounds annually as a prize to the graduate who has passed the best examination in those veterinary subjects more particularly related to the objects and aims of that society. This liberal offer, we are certain, will have a most beneficial effect as a stimulus in promoting the study of a section of the students' education which has been sadly neglected, owing to the brief period allowed for the acquisition of professional knowledge; and we doubt not that the University will take every care in utilising the gift to the greatest advantage. Nothing but good can result to the community from an alliance between the Royal Agricultural Society and the Royal College of Veterinary Surgeons.

At the commencement of a new year and a new volume of the journal, we are confident that our readers will derive satisfaction from the evidence we have given that better days are in store for us, and that the year 1876 opens much more auspiciously than did 1875. It only remains with the profession to realise its aspirations by energy and unity, and so to constitute itself what it should long ago have been.

THE VETERINARY ORGANIZATION OF AN ARMY CORPS ON A WAR ESTABLISHMENT.

In these days, when vast preparations for war are occupying the earnest solicitude of nations the most advanced in culture and civilization,—preparations which are demanding such sacrifices as almost to make us think that war itself could not be much more serious—an efficient and complete state of readiness in every branch of the service is a matter of the utmost urgency.

The Veterinary Department of an Army is certainly not one of the least important of those which will, in future wars, be severely tested; it is therefore of the greatest moment that in all preparations and reorganizations it should receive the closest attention. France has just completed a reorganization in the Veterinary Service of her army, and the pay and position of the Veterinary Surgeon is much improved.

In this country the Department should be composed of the best veterinary surgeons procurable, and the nature of their duties and the heavy responsibilities imposed upon them, both in peace and during active service in the field, requires that they should have reasonable inducements held out to them to join. At present, so little prospect of promotion and adequate remuneration does the service offer, and so many heavy grievances exist among those now in it, that we fear the most promising and eligible men will not enter until a considerable improvement has been effected in the pay and position of the Veterinary

Officer. Should this improvement not take place before we are involved in war, it is to be apprehended that the country would find itself rather in a dilemma, and exposed to great loss if the Department could not be suddenly increased by good veterinarians.

An army circular has recently appeared, giving in detail the composition and organization of an Army Corps on a war footing. In it is seen the enlarged proportions which the Veterinary Department will assume in future wars.

The Army Veterinary Department may take credit for this indirect acknowledgment of its increasing utility. The position and duties of its members with an army in the field are now clearly defined, and they are placed on a recognised footing for the first time.

The total number of horses in an Army Corps is to be 11,863, consisting of chargers, troopers, and those of the transport. The veterinary establishment will consist of four administrative and thirty-five executive officers, distributed as follows :—

Head Quarters	1	Chief Staff Veterinary Surgeon.
Three Divisions	3	Staff Veterinary Surgeons.
Total	4	Administrative.
Two Brigades of Infantry to each Division —one Veterinary Surgeon to each Brigade	6	Veterinary Surgeons.
Three Regiments of Cavalry, one to each Division	3	,, ,,
One Brigade of Cavalry	5	,, ,,
Four Batteries Horse Artillery	4	,, ,,
Eleven Batteries Field	11	,, ,,
Four Reserve	4	,, ,,
One Troop Pontoon Train	1	,, ,,
Half Troop Telegraph ditto	1	,, ,,
Total	35	Executive ,,

This will give, within a fraction, 340 horses to each executive veterinary surgeon on an average—an ample charge for one officer in the field.

What strikes us as a novelty, is the appointment of a veterinary surgeon to each brigade of infantry. But it will be found, on looking into the details, that each of the six veterinary surgeons so appointed will have 365 horses, consisting of chargers and transport, in his charge. This is about the strength of a cavalry regiment in peace time; but scattered as the horses will be throughout the brigade, the veterinary surgeon's time will be at any rate fully occupied.

Those who have served with an army in the field will understand what a boon this will be to staff and mounted officers on the one hand, and to cavalry and artillery veterinary surgeons on the other. The latter have hitherto given their services, often at great inconvenience and toil, as a personal favour; but more frequently the horses have been left without skilled attendance of any kind.

There is one point in this organization, however, which is defective, and which assuredly will not work well; that is, the official designa-

tion of the administrative officers. No high-sounding title is necessary, nor is it sought for by army veterinary surgeons; but simply for the sake of distinction and convenience the present appellations should be altered.

The designations referred to are Chief Staff Veterinary Surgeon, Staff Veterinary Surgeon, Veterinary Surgeon to the Staff (Infantry). What can any one, not in the Department, understand by this confusion of *Staff* designations? Even in the Department many junior officers will be at a loss to comprehend their meaning, and the functions pertaining to them.

The designation of Staff Veterinary Surgeon dates its origin from the time of the Crimean War. Three regimental veterinary surgeons, whose regiments remained in England, were sent out for general duty, and attached to a general's staff, or to a depôt, simply to afford veterinary aid to the horses of these. They were called "Staff Veterinary Surgeons," and correctly so. But they possessed no administrative functions, and had no superintendence over the regimental veterinary officers. Towards the close of the war, administrative duties were assigned to one of them, but only in connection with the transport train.

On the re-organization of the Department, when the war was over, an administrative grade was permanently established; but, unfortunately, the designation of "Staff Veterinary Surgeon" was retained, and applied to the new grade.

Now, after a lapse of upwards of fifteen years, officers of almost all ranks consider this designation to apply to a veterinary surgeon who is detailed to afford veterinary aid to staff officers' horses, simply because the staff surgeons in the medical department perform analogous duties.

It is in the experience of every Staff Veterinary Surgeon how frequently this has led to a game of cross purposes, entailing explanations and references, very disagreeable to both sides; even then the impression is often retained that the staff veterinary officer is seeking to evade his legitimate duties.

The veterinary surgeons attached to brigades of infantry will, from their position and the nature of their duties, be essentially "Staff Veterinary Surgeons," and will be so called and referred to in their brigades.

As an illustration of how this works, even in peace time, let us see what happens in one of our camps. There is a veterinary surgeon at Aldershot doing similar duties to those which the brigade veterinary surgeon in the field will have to perform. To distinguish him from the staff veterinary surgeon he is styled "Veterinary Surgeon to the Staff," and this is the cause of frequent misunderstandings. How are officers in general, during a campaign, to distinguish between the "Staff Veterinary Surgeon" and the "Veterinary Surgeon to the Staff"? As at present arranged, this will be the condition under which several of these gentlemen will be placed. It can lead only to confusion and cross purposes, and at a time, too, when general and staff officers have little leisure to give heed to the difference in duties when the appellations are so much alike.

To make confusion worse confounded, we have in the Army Circular

before us another creation, again introducing the word *staff*, viz., "Chief Staff Veterinary Surgeon," *i.e.*, the head of the department in an army corps. From this hopeless confusion of staff designations, how is it possible for an outsider to distinguish one from the other?

In India things appear to have been managed better. The Administrative Officer is styled "Inspecting Veterinary Surgeon." This at once indicates the duties of this functionary, and all know what it means.

To simplify all this, the chief staff veterinary surgeon with an army corps might conveniently be styled "*chief veterinary surgeon*." The staff veterinary surgeons, one to each division, "*inspecting veterinary surgeons*," and the brigade veterinary surgeons, and all doing executive duties other than regimental, "*staff veterinary surgeons*." The alterations are simple and intelligible—great advantages on active service at any rate—and we trust the authorities may on this plea remedy what is now mystifying and likely to confuse.

DAMAGING DISINFECTION.

In the *Zeitschrift d. Dresdener Thierschutzvereins* for July last, we are informed that at the commencement of 1875, the Foot-and-mouth disease was introduced into the public *abbatoir* and cattle-market of Dresden; and in order to combat it, extensive and repeated disinfection was resorted to. While these places were vacant, the walls, partitions, floors, and ground were dressed with a concentrated solution of chloride of lime with carbolic acid. After a time it was discovered that these disinfectants had impregnated the tissues of the animals, through inhalation and licking the walls; and there were loud complaints on every side, that their flesh, and particularly that of the calves, whether roasted or in sausages, in a raw or dressed condition, was not fit for consumption. The loins of veal, as well as the lungs, liver, and feet of calves and swine, had a penetrating repulsive taste of carbolic acid; though mutton was not affected, and beef was not very often proved to be so. It was also remarked that the flesh of the animals which had not stood in the disinfected places was tainted with the disinfecting agents; in this case the air was supposed to be the medium of contamination, and as a rule only those pieces of meat were tainted which had been hanging nearest the unskinned calves. Many pieces of meat were entirely unfit to be eaten from their carbolic acid taste, and had to be destroyed, or were sold for a trifle by auction. For instance, five calves' heads, thirty calves' feet, three calves' milts, and ten pounds of knuckle of pork, were given away for a silver groschen (equal to one penny). Such a result on quantity and quality had occurred from the use of volatile disinfectants, and it deserves to be borne in mind when it is necessary to disinfect places of a similar character. In such cases odourless disinfectants had better be employed.

POISONING OF ANIMALS BY SEWAGE WATER.

ACCORDING to the *Stamford Mercury*, two horses and four cattle died under circumstances which led to a suspicion that the well water supplied to them was not what it should be. A quantity was accordingly sent to Professor Voelcker for analysis. He reports: "The smell of the liquid was extremely disgusting, and it was almost as deep in colour as liquid manure. It contained fully as much ammonia as the sewage of towns, and a larger proportion of saline constituents. Indeed, it may be regarded as concentrated sewage." The animals had been supplied with this filth for a month. Foul water has long been regarded as one of the causes of Anthracoid and some other allied maladies of animals, and particularly in hot weather. Many outbreaks of Anthrax Fever in cattle are recorded, which could be traced to no other source than the filthy water of ponds or wells.

GLANDERS IN JERSEY.

IN our last issue we alluded to the existence of Glanders in Jersey, and the importation thence of horses affected with that malady into this country. We learn that the Jersey authorities instructed Mr. Haire, M.R.C.V.S., to inspect certain stables belonging to Messrs. Gregory and Le Breton. Those of the latter were free from infection; but in Mr. Gregory's stables, containing forty-seven horses, two were found affected with chronic Glanders. These were destroyed, and the autopsy confirmed the diagnosis. Another animal, very poor and used-up, was killed; as well as a mare, upwards of twenty years old, incurably affected with Pneumonia (?). Precautions appear to have been taken, so far as disinfection, etc., of the stables, and periodical inspection of the remaining horses, is concerned; but from the history of the outbreak we fear a close surveillance of the latter will have to be continued for some time, in order to ensure safety.

VETERINARY EDUCATION IN HOLLAND.

IN 1874, the Dutch Cabinet issued a gazette having reference to the position and practice of veterinary medicine, in which it was ordained that no one could practise as a veterinary surgeon unless he had studied for four years in the National School at Utrecht. With the exception of inoculation, the practice of veterinary medicine is free in that country. As to the period of study fixed for the student, it will be noticed that in Holland it is the same as in France, and that these two countries demand a year longer than the German, and three years more than the British schools!

TUBERCULOSIS IN AUSTRALIA.

In the *Journal of the National Agricultural Society of Victoria*, Mr. Graham Mitchell quotes a letter written by him to a local periodical so long ago as October, 1871, in which he urgently calls attention to the existence of Tuberculosis among cattle in Melbourne, and describes an extreme case of disease occurring in a herd, two of which had already been destroyed. In this letter he says that "it will be interesting to know whether the increasing diseases of the lungs and liver in the human subject are due to the same climatic changes, etc, that are now developing similar diseases amongst cattle. Dr. Thomson, of South Yarra, has kindly promised to investigate this subject from a medical point of view; and as soon as the tubercular matter has been microscopically examined, I will publish a full report. . . . Any information will be regarded as strictly confidential, as the object is to scientifically investigate the subject with the view to its prevention or eradication. If 'Pleuro' meat has the benefit of the doubt as to its wholesomeness as human food, I think the meat from "consumptive cattle" will not be viewed in the same light, should it unfortunately be allowed to develop, as has been the case with the other diseases in stock."

Mr. Mitchell adds, that since the above letter was written he has closely watched the disease, and he finds that it has gradually increased, and is now general throughout the colony. He also states that a number of the herd above referred to were sold, and these mixed with other cattle, amongst which this disease subsequently appeared. On behalf of an intending purchaser who mistook the disease for Pleuro-pneumonia, Mr. Mitchell recently examined these cattle, and found several diseased. He therefore advised that the cattle should not be purchased; but as the price was low, "the opportunity of a good bargain could not be lost, and the present owner may yet have reason to regret wilfully introducing a contagious disease into his herd."

We congratulate our old and esteemed college-friend on his prescience with regard to this serious malady, recent researches and observations on the Continent having fully substantiated what he publicly asserted so long ago as 1871. Australia is now very fairly provided with contagious diseases. We trust she will exhibit more skill and energy in suppressing them than the mother country.

MALIGNANT PUSTULE.

We read in the *Scotsman* that a case of Maligant Pustule recently occurred at Galashiels, in the person of a servant girl, under fourteen years of age, who was in the service of a cow-keeper, whose cows had been affected with Foot-and-mouth disease. It is added that the latter malady is communicable to the human subject, and when this occurs it sometimes takes the form of Malignant Pustule. It was therefore con-

jectured, though it could not be affirmed, that she was infected from the diseased cows.

We may be sceptical as to the transmitted Aphthous disease resulting in Anthrax, but there cannot be a doubt that in cattle the latter malady not unfrequently complicates the former. Of this we have ample testimony in the writings of such trustworthy authorities as Ampach, Pessina, Waldinger, Schrader, Bojanus, Rychner, Röll, and others. Such a complication may have existed in the cow which infected the girl; but it cannot be disputed that Anthrax, and the vesicular fever of animals known as "Foot-and-mouth" disease, are perfectly distinct affections.

ABORTION AMONG MARES, DUE TO "RUST" ON FODDER.

In a recent number of the *Milch Zeitung*, a German agricultural journal, it is mentioned that in February and March, 1874, in the circles of Husum and Rendsburg, abortion was so prevalent among the mares that in a number of districts many or nearly all of the foals were born dead. Owing to the weather, the mares had been kept indoors and fed, so that exposure could not be the cause of these accidents, which were for some time unaccountable. The district veterinary surgeons, however, ascribed them to the "rust" and "blight" on the oats. In the districts so visited, the hay crop had been deficient the previous season; so that the horses had to be fed in winter chiefly on unthrashed oats, the straw of which was infested with "rust" (*Trichobasis rubigo*). This was a very important discovery, and led to most satisfactory results; for, on its being accepted as the real cause, other fodder was substituted—threshed oats mixed with chopped rye-straw—and no more abortions were reported.

ANTHRAX IN BAVARIA IN 1874.

According to the *Wochenschrift für Thierheilkunde* for January of the past year, very many cases of Anthrax were observed during 1874, and the disease generally appeared in a most fatal form. From the reports, it would seem that no doubt is entertained as to the contagion being transmitted from sick to healthy animals by flies, whose bites produced inoculation. Strange to say, the flies themselves do not appear to be in the slightest degree susceptible to the action of the virus; for on examining some of these dipterous insects, which were gorged with Anthrax blood, six hours after their feast, they manifested no unusual appearances, though the gastero-intestinal canal contained multitudes of bakteria.

At the commencement of the outbreaks, much of the flesh of diseased cattle which had been slaughtered was allowed to be consumed as food for the people; but its use was interdicted at a later period, when it was discovered that several persons had contracted the malady.

Reviews.

UEBER DIE PATHOLOGISCHE ANATOMIE DER RINDERPEST (ON THE PATHOLOGICAL ANATOMY OF CATTLE-PLAGUE). By E. Semmer. Dorpat, 1875.

Professor Semmer, of the Russian National Veterinary School at Dorpat, made a journey, in 1874, into the interior of Russia, as far as Carlowka, where an Imperial Commission had been located for some time investigating the utility of protective inoculation for Cattle-plague. His stay at this "Impfungen" station gave him opportunities for making observations with regard to this malady, and these he has printed in the form of a little *brochure* of some seventy-eight pages, illustrated with two plates.

The researches and observations of such an excellent authority as Professor Semmer, on any subject connected with comparative pathology, will always command attention and, as we shall have frequent occasion to show in this journal, will often deserve serious reflection.

A large portion of the little work before us is occupied with a detailed review of what has already been done in the way of elucidating the pathology of Cattle-plague, the remainder being devoted to a consideration of certain views which Semmer entertains with regard to the malady, and which are chiefly founded on his own investigations.

These are more immediately related to the histology of Cattle-plague, and to matters of histological controversy in connection with the parasitic nature of the disease: a subject which has been much discussed in recent times.

In order to arrive at any satisfactory result in this direction, and to obtain an explanation of the important *rôle* said to be played by the lower organisms in the production of the disease, it is of course necessary to carefully examine the matter used for inoculation, and that in a fresh condition, as it undoubtedly contains the contagiferous element. It is also important to discover in what respect, and in how far, the nasal mucus, for instance (a very infectious secretion in this disease), differs in a sick and a healthy animal.

While Semmer was at Carlowka, of two hundred and sixty inoculated cattle, seven died in consequence of the disease, and fifty were killed within a short time after the operation, for the purpose of anatomo-pathological research. The principal results of this *post-mortem* investigation are carefully detailed by Semmer, and these we will notice, in consequence of their engrossing interest and importance.

NO. 1. A CALF KILLED THIRTY-SIX HOURS AFTER INOCULATION. *Necroscopical appearances:* In the lungs, indistinctly defined Hyperæmia in the form of reddish-brown spots. In the first and fourth compartments of the stomach, redness of the mucous membrane; in the latter compartment the membrane was swollen and infiltrated, and here and there were observed sharply-defined erosions and epithelial desquamation. There was catarrhal tumefaction and redness of the small intes-

tine; puffy enlargement of Peyer's patches, and great tumefaction of the solitary glands; on the mucous membrane was a tough, purulent-looking mucus, consisting of the epithelial-cells, and round granular cells. The liver was somewhat soft, and the liver-cells had undergone fatty granular degeneration. There was desquamation and commencing destruction of the kidney epithelium. The mesenteric glands were extremely swollen, and infiltrated with a medullary-looking material. There was catarrh of the mucous membrane of the mouth and throat. The colourless globules of the blood were increased in number, and contained granular bakteria; the serum also contained bakteria. In the nasal mucus were great quantities of granular cells and globular bakteria.

No. 2. THE ABORTED EMBRYO OF AN INOCULATED COW (aborted seven days after inoculation). Hæmorrhagic infiltration of the connective tissue of the skin in the anterior part of the body. The lungs and intestines hyperæmic; desquamation of the epithelium of the intestinal villi, with cell-infiltration of the villi themselves. Destruction and granular fatty degeneration of the liver cells. The blood-globules were granular and stellate.

No. 3. SHEEP, KILLED EIGHT DAYS AFTER INOCULATION. This animal had been inoculated by means of a hair-cord steeped in the subcutaneous connective-tissue fluid of the sick calf. *Necropsy:* Hyperæmia of the mucous membrane of the fourth compartment of the stomach and that of the intestines. Tumefaction and cell infiltration of the intestinal glands and follicles. Cloudy infiltration of the kidney epithelium and liver cells.

No. 4. COW, KILLED EIGHT DAYS AFTER INOCULATION. The day previous to inoculation it aborted its calf (No. 2 *post-mortem*). *Necropsy:* The blood was still fluid five hours after death, and showed no indication of coagulation; it was of a dark brownish-red colour, and the colourless corpuscles were notably increased in number, extremely granular, clustered together here and there in round-shaped masses, and containing globular bakteria. There was desquamation of epithelium of the intestines, and numerous free bakteria in the intestinal canal. In addition to all this, there were appearances of Gastro-enteritis, and breaking-up and granular fatty degeneration of the kidney epithelium and liver-cells. There was likewise Hyperæmia of the lungs, with infiltration and condensation of the same, as well as swelling and redness of the mucous membrane of the mouth and throat, larynx and bronchi. On the tongue were erosions and patches.

Nos. 5 and 6. TWO CALVES, KILLED THIRTY-SIX HOURS AFTER INOCULATION. Spotted redness of the lungs; Hyperæmia of the laryngeal and bronchial mucous membrane; tumefaction at the base of the tongue and in the pharynx, the glands of which were very prominent. In the blood were great quantities of white corpuscles heaped together in ball-like masses, and containing bakteria. The mucous membrane of the rumen was reddish coloured, and that of the fourth compartment of the stomach and small intestine was reddened and swollen. At the pylorus were found the above-mentioned erosions. The contents of the small intestine was a yellow tenacious mucus; Peyer's patches were

very prominent, and on pressure yielded a fluid resembling pus. Cloudiness and fatty degeneration of the liver cells and renal epithelium. The gall-bladder was greatly distended; the Malpighian bodies of the spleen were hypertrophied, and there was enlargement and cell-infiltration of the mesenteric glands.

No. 7. Two-year-old Cow which had been violently attacked with the disease, and died ten days after inoculation. *Necropsy:* On the skin, and particularly in the region of the udder, were dry crusts and little lumps. The mucous membrane of the mouth was hyperæmic; the epithelium was being shed in patches, and there were erosions at the base of the tongue and in the pharynx. In the internal organs were the usual appearances of Cattle-plague.

No. 8. Calf, died ten days after inoculation. Presented the same appearances as No. 4.

No. 9. Calf, died thirteen days after inoculation. The necropsy revealed the characteristic alterations of pronounced Cattle-plague, with partial œdema and hepatisation of the lungs.

No. 10. Cow, died fourteen days after inoculation. The lesions in this case were similar to those in the preceding (No. 9). There was redness and tumefaction of the mucous membrane, and partial hepatisation of the lungs. The solitary intestinal follicles were increased in size from that of a millet seed to a lentil, appearing as little yellow tumours extending as deeply as the serous tunic.

The ten *post-mortem* examinations above alluded to, prove that the anatomo-pathological alterations in inoculated animals which do not show any marked symptoms of the disease thirty-six hours after inoculation, are yet quite characteristic.

The intensity in the appearances increases with the duration of the disease. The most notable lesions were remarked in the two last cases, which did not die until thirteen and fourteen days after inoculation.

The microscopical examination of the inoculation matter (nasal and mouth mucus, tears), of the blood, and of the glandular organs, yielded the following results: In the blood the colourless-corpuscles were always

Fig. 1.

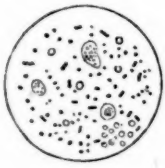

Fig. 2.

Fig. 3.

increased in number, and were often heaped together in ball-like masses, very granular, and stellate-shaped. Globular bakteria (*Kugelbakterien*) were found in the colourless, as well as in a few red corpuscles, and in the serum. In the blood of a calf thirty-six hours after inoculation, the white blood-corpuscles were to the red as one to thirty. They were

extremely granular, and contained bakteria, surrounded by masses of protoplasm. (See fig. 1.) This condition is only to be observed in fresh-drawn blood, which must be examined before coagulation takes place. Otherwise, the white blood-corpuscles become broken-up and mixed with the bakteria in the coagulated fibrin.

In the nasal mucus of the calves, seven hours after inoculation, globular and chain bakteria had made their appearance. The number of colourless corpuscles had increased in the blood, and in the serum were found individual bakteria. The latter increased with the duration of the disease, and decreased in number when amendment took place.

In the nasal mucus of sick animals, granular epithelium, with granular roundish mucus-cells, blood-corpuscles, and numerous globular and chain bakteria, were observed. (See fig. 2.)

In the mucus from the mouth, as well as in the tears, similar appearances were noted.

The inoculating material was procured at Carlowka, by introducing a piece of clean sponge into the nostril of an animal undoubtedly diseased. The sponge, being thoroughly saturated with the nasal mucus, was squeezed out into small glasses, which were then carefully closed. In this manner the viruliferous material retained its potency for several days.

When this nasal fluid was examined about twenty-four hours after it had been obtained from the animal, the white and red blood-corpuscles were found to be unchanged, and the matter itself without odour. But the number of globular and staff bakteria had, in comparison with the freshly-obtained fluid, much increased. Out of the globular bakteria, short chain and staff bakteria had issued, the latter with distinctly discernible articulations. These bakteria were, some of them, motionless, and others in active movement.

The movements may, however, be hindered by adding glycerine and vinegar to the fluid they are in, without any further alterations appearing. (Fig. 3, Hartnack 5 and 7.) The staff bakteria are recognised under a very high magnifying power as articulated chains.

The bakteria increased until the third day, and were in active motion. On the fourth day, no increase had taken place, and the movements were less lively than on the preceding day. On the fifth day appeared *Vibrionæ* and *Infusoria*.

Inoculation material which had been buried for two years in small glass tubes, smelled strongly of sulphuretted hydrogen, was slightly troubled in appearance, contained decomposition bakteria, and was found to be impotent to produce the disease.

In the liver and cortical structure of the kidneys were found the alterations in the cells already noticed—viz., enlargement, troubled contents, fatty degeneration, and shedding; bakteria were also present.

Whereas in the blood and secretions of healthy cattle, bakteria are not met with in such numbers as these control examinations or inoculation experiments yield; and as the inoculation material only remains potent so long as it contains globular and chain bakteria, its potency disappearing with the advent of decomposition bakteria and putridity, so

does Professor Semmer maintain that the globular and chain bakteria have an undeniable importance in the pathogenesis of Cattle-plague. He also asserts that the corpuscles which Beale discovered in the bodies of plague-stricken cattle, and which he named modified germinal matter, are nothing more nor less than "globular bakteria." As in other contagious or inoculable diseases (Splenic Apoplexy, Septikæmia), Semmer considers the globular bakteria to be the active agents—not the staff bakteria. The latter most frequently first appear in the last stage of the disease and after death, whilst the globular bakteria always exist from the first. On account of their exceedingly minute size, essential differences cannot be distinctly made out between individual globular bakteria, even with the highest magnifying powers.

Their presence in very dissimilar diseases, however, is strongly in favour of their diversity; as well as the circumstance that they are penetrated by decomposition bakteria and are destroyed, and, finally, the different forms into which they may, under certain conditions, be developed.

The Cattle-plague bakteria are not essentially different from other bakteria; in their further development they form chains of various lengths. After their immigration or transference into living bodies, they multiply in the blood and lymphatic vessels, penetrate the white and also the red blood-corpuscles, inducing division and amplification of the former, and producing obstruction, congestion, and hæmorrhage in different organs. Further, they bring about degeneration and breaking-up of the tissue cells, such as the epithelium and living cells.

It will be seen from all this that Semmer attributes the production of the disease we know as "Cattle-plague" chiefly, if not entirely, to the globular bakteria—a very important result to have arrived at, certainly, and one which, if further researches fully substantiate it, marks an important step in advance, and adds another disease to the list of those whose exciting agent is pretty accurately determined.

Semmer, in recapitulating the main points of his observations, sums up as follows: The bakteria are created from transformations of the blood and tissues, and notwithstanding the apparent similarity in their form, they are really diverse in their characters; so that every contagious disease has a specific kind of bakteria.

They always obtain admission to the blood; and, firstly, bring about primary alterations in that fluid, which, secondarily, induces changes in the tissues and organs. By the entrance of large numbers of bakteria into the blood and their increase there, fever constantly ensues. After the epizöotic kind of malady which each peculiar sort of bakteria develops, has led to certain blood-elements being consumed, and has engendered certain alterations in the constitution of that fluid, the bakteria perish, or at least cannot further multiply, because they no longer have a favourable soil; in this way they behave like some kinds of seed which, when they have exhausted the soil on which they grew, can survive no longer.

When the specific soil has thus been permanently and thoroughly altered through the action of the specific contagium, the organism cannot

be affected by the same agent a second time ; and thus we have immunity conferred from future attacks of the disease: as happens in Cattle-plague, Variola, Distemper, etc.

But should the alterations, on the contrary, not be permanent, then repeated attacks may occur, as in Splenic Fever, Septikæmia, Glanders, etc.

Should the secondary effects of the bakteria (Congestion, Infiltration, Degeneration of the internal organs) not be very serious, then convalescence will follow after the expulsion of the infecting agent through the skin, lungs, intestines, and kidneys. If, on the contrary, they are serious, then death will ensue.

Semmer particularly insists on the recognition of the fact that, in Cattle-plague, bakteria have the same significance as in Anthrax, Septikæmia, Distemper, etc. The contagium of Cattle-plague always engenders a primary blood-disease and Fever, before there is any localisation in the mucous membranes and the glandular structures and the production of the secondary changes.

The question as to the origin of the Cattle-plague bakteria still remains open. According to some authorities, the disease came from Asia, and was not spontaneously developed in the Steppes of European Russia.

The contagium sometimes remains effective for a long period ; but it is destroyed by heat, air, and putrefaction.

Well-preserved inoculation material will remain efficacious for years, but when allowed to decompose will be impotent in a few days. When exposed to the atmosphere, and particularly to a hot dry air, it is destroyed as rapidly.

According to the experiments of Raupach, a wide ditch is usually sufficient, in the hot dry climate of the Steppes, to prevent the spread of Cattle-plague. The healthy cattle on one side of the ditch do not become infected by the diseased on the other side.

The Cattle-plague bakteria are equally destroyed by heat, dessication, acids, and particularly ozone, as by putrefaction.

What degree of importance is to be attached to them in the nasal mucus, in the intestinal contents, and likewise in the large fungus bodies and kysts met with in the fæces, is a point which remains open for further investigation.

Semmer has done good service in publishing his observations on the parasitic nature of Cattle-plague, tending, as they do, to throw new light on this mysterious malady, and to supplement the excellent researches of Klein on the histo-pathology of Sheep-pox, which have been already described *in extenso* in the *Veterinary Journal* (Vol. I., p. 134).

On the Feeding and Management of Draught Horses: Food and Work. By Charles Hunting, M.R.C.V.S., Fence Houses, Durham, 1874.

Mr. Hunting's booklet is the substance and elaboration of a lecture given at the Newcastle Farmers' Club so long ago as 1861, on the "Feeding and Management of Horses." It is the result of extended

observation and experience among, perhaps, the hardest worked horses in the country—those toiling hundreds of fathoms beneath the surface of the earth in the great coal-pits of the North of England. The treatise is eminently practical, instructive, and interesting, and the system of feeding and management advocated is not only based on just notions of biological requirements, but it possesses the additional advantage of having undergone the severe test of many years' trial; and if the evidence of unimpeachable and valuable witnesses is of any worth, with great success. We think Mr. Hunting has done well to publish his amended and extended lecture, if for no other object than to testify to the value of veterinary science in a matter in which humanity and money are largely concerned—and these are the touchstone of our profession.

The unwitting or wilful abuses that abbreviate horse-life and impair utility, while they render existence a curse to the most useful and generous animal we possess, are lucidly exposed, and their short-sightedness amply proved. The eloquence of facts was perhaps never more usefully invoked than by Mr. Hunting, when he indicates how horse-life and horse-usefulness, and we may add horse-comfort, can be wonderfully increased, and at the same time a large saving be effected to the owner. We have not space, even if we could do justice by mere extracts, to point out how the author attains these ends. We will content ourselves with only one illustration of the benefit attending his method; and leave those of our readers who care to invest a shilling in the little book to say whether Mr. Hunting does not deserve the thanks of horse-owners and veterinary surgeons for his valuable hints, the result of much thought and labour.

Speaking of the different kinds of food, and their muscle-forming properties, and of the adaptability of some and the non-adaptability of others, he writes: "Scientific and practical observation are thoroughly in accord as to this fact, the truth of which was forcibly demonstrated at a colliery in Durham to which I was called some time ago. The output at this place was decreased from fifteen to twenty score per day through the horses being unable, from want of condition, or I may say from positive debility, to get the work out. These animals were miserably poor, though allowed 168 lb. of oats, and 154 lb. of hay each per week. . . . . The horses were all large: none under 16 hands, many 16.2. They worked very long hours, and took heavy loads; but I confess I was astonished at their appearance after many months of such apparently liberal feeding." Mr. Hunting's mode of feeding was introduced; there was a saving of 9*s.* 5½*d.* per week in forage on each horse, and "within three months this stud of horses was in excellent health and condition, drawing out of the pit, with no application of engine power, from twenty to thirty score more per day than when I first saw them. There were one hundred and forty-nine horses on the colliery; so by this change a saving of £3,662 12*s.* 1½*d.* per annum was affected. With this only one might be satisfied; but I claim that the increased work performed, and the increased value of the animals must be considered, if not added in £ *s. d.*"

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

Report of proceedings at special meetings held on the 3rd December, 1875. Present—The President, in the chair; Professors Simonds, Brown, Pritchard; Messrs. Dray, Hunt, Harpley, Fleming, Moon, Cartledge, Moore, Greaves, Gowing, Field, Cox, Talbott, Woodger, and the Secretary.

The Secretary read the notice convening the meeting.

The minutes of the last meeting were read and approved.

Alteration of bye-law 31 was then referred to.

The President said that the point had been so fully discussed at the last meeting of the Council, that he did not propose to offer any further remarks on the subject; he would only say that if Professor Simonds said it would be possible to extend the course of study to three years, he thought the Council would raise no objection; but in increasing it to three years they had gone as far as they could in carrying the good will of the majority of the schools. There was a question at the last meeting whether the Council had power to regulate the duration of the period of study. He had taken counsel with Mr. Loch on the subject, and had in reply received the following letter:—

CASE.

"There is herewith laid before Counsel, copies of Charter of the Royal College of Veterinary Surgeons and of existing bye-laws.

"The Council of the College have hitherto acted on the assumption that they were by the terms of the Charter (see particularly p. 14 of printed copy thereof) entitled to regulate, by means of a bye-law or bye-laws, the duration of previous studies on the part of students coming up for examination—and this assumed power they have for a long time exercised. (See p. 7 of printed copy of bye-laws.)

"Doubts, however, have arisen on this point, which is, in the opinion of the Council, one of much importance, and Counsel is therefore requested to advise,—"Whether, under the provisions of the Charter, the Council really possess such power, or whether their only duty is to examine any student sent up to them, without reference to the period during which, or the *place* where, he may have previously studied."

OPINION.

"I am of opinion that the Council of the College are entitled to regulate, by means of bye-laws, the duration of previous studies.

"The Charter (p. 14) authorises bye-laws for determining 'times, places, and manner of examining;' 'for regulating the extent of such examinations;' 'for appointment of persons to examine, etc.;' which expressions seem to cover everything connected with examinations, and, in addition, authorises bye-laws 'for admission or rejection of such students,' which latter words seem to cover all other matters which may be deemed necessary conditions of admission, in addition to the passing of a proper examination, such as age, previous education and training, character, etc.

"The subsequent words (p. 15), entitling 'all *qualified students* (not 'persons') who shall have passed the examination' to claim admission, show

that the requisites are (1) studentship,* (2) passing the examination, and (3) some other qualification. No qualification is imposed on students by the Charter, consequently the qualification may depend on the bye-laws.

"The doubt suggested has probably arisen on the words in the first clause of the Charter (p. 4 of print), which apparently only require studentship, and passing the examination; but these words would be considered as controlled or explained by those at pp. 11, 15.

"(Signed) EDWD. P. WOLSTENHOLME,
"3, Stone Buildings,
"Lincolns Inn.

"November 24, 1875."

Mr. Day said that, although he had seconded the President's motion in July, he had since given the subject very serious attention, and he thought it would be unadvisable at the present time to make any alteration in the bye-law. If they were to do so, he feared it might lead to perplexity, confusion, and even discord. The Council was now acting in harmony with the schools, and he thought it would be better to let well alone. He should therefore offer his strenuous opposition to any alteration of the bye-law.

Professor Brown said he should also vote against any alteration in the bye-law, and he would state the grounds of his opposition. The period which would be added to the present time of study would be insignificant. What they proposed to do was to take a man who had passed through his winter session to prepare himself for his final examination, to give him a month's holiday, and to bring him back to the College again for two months to commence an initiatory period of study in those subjects he had already passed his examination in; and after keeping him those two months, then submitting him for his final examination, for which he would have been better prepared at the end of the winter session. At the same time he wished emphatically to state to the Council his conviction that the present period of study was far too limited, and some of his colleagues supported him in this view. It was his fixed conviction, based upon considerable experience, that the time a man had for the purpose of acquiring a knowledge of the various subjects was far too small, even for the highest capacities. He was surprised to hear that the Council had the power to make such alterations in the bye-laws for the regulation of the period of study; but if they chose to bring the matter before the Governors of the London School, and discuss it with the various schools, he should only be too delighted to find that the result would be a large increase in the period of study. But in reference to the proposal to add another two months to the time of study, he could not help feeling that it would have all the disadvantages of disturbing the existing system, without any corresponding benefit.

Professor Simonds said he was not desirous of making many observations, having expressed his opinion upon the subject fully at the last meeting. He then stated that an alteration of this kind would sadly disarrange a system which was of comparatively recent introduction; that he thought a considerable deal had been done in the way of progress within the last three or four years; and that it would be more prudent to see what would be the operation of those regulations, than it would be to make, at the present time, a change in the period which (a student having passed his first examination), he should remain at his studies before he passed his second. He agreed with the remarks that had been made by Professor Brown. He thought with him that the two months would really be of no advantage to the student, because absolutely he would have to apply himself to subjects upon which he

* Clearly the "Student" means a student of one of the colleges mentioned or authorised by sign manual. (See p. 4 of print of Charter. E.P.W.)

had already passed his examination. He was examined at the second examination upon physiology, veterinary medicine, and veterinary surgery, and, he believed, upon therapeutics and other subjects, as well as upon the practical details of his profession. So far as physiology was concerned, the lecturer upon physiology was engaged during the summer session in teaching a totally different subject. He had to prepare the men who had to come up in July for their first examination, and it was to the subjects which these men were examined upon that the teaching during the summer was specially devoted. They were all aware that a student must spend one winter and one summer session at the College before he was eligible for his first examination, and unless he passed his first examination, he was not eligible for the second; and it was the duty of teachers in connection with any school to prepare the students as best they could for their first examination. During the session, lectures were given to those who were being prepared for their second examination. He echoed most fully the sentiment that the present time was altogether too short. But the question naturally arose, was this the proper time to make the alteration? If the Council should be of opinion that the proper time had arrived, then they should set about it in earnest, and do something which would really effect good. Any alteration, however, would effect a great disarrangement, and would, in fact, upset everything. His idea was that if the time was to be extended, they ought really not to call upon men to pass their second examination until they had absolutely been a second winter session at the College. He would have these students attend two winter sessions before he would allow them to come up for their second examination; and anything short of that would altogether fail in accomplishing the object which the Council had in view. He did not think the time had arrived for any alteration, and that the present system, which was only but of yesterday, should have a fair trial. But if the Council thought the time had arrived, he would strongly advocate that there should be a conference between them and the Governors of the College, the object of the conference being to see if a second winter session could not be added to the present period.

Mr. Fleming said that, seeing the profession and the public were exclaiming against the short period of study, no time could be better than the present for making an extension of the period. Although the Scotch schools were not represented at that meeting, he felt sure that they would gladly assent to the extension of the period of study, by one summer and one winter session. He should, therefore, to bring the matter to a crisis, propose, as an amendment to the proposition made at the last meeting, "That the period of study be extended one summer and one winter session."

Mr. Harpley, having called the attention of the Council to the circumstances under which the present arrangements were made, said he did not think the Council ought to break up the system which had been so recently established at their own request, without taking into full consideration what they proposed to do. After the explanation that had been given by Professors Simonds and Brown, he thought it would be advisable for the President to withdraw his motion, and that a fresh notice should be given at the next meeting. It would be proposed that another winter and another summer session should be added, so that the student should have, in all, three winter and two summer sessions. He also thought that there should be a conference on the subject between the Council and the Governors of the Royal Veterinary College.

Mr. Dray seconded Mr. Harpley's proposal.

Several of the members having expressed themselves as desirous of this course being adopted,

The President said that, seeing there might be difficulties in the way, and

having regard to the expressed wish of the meeting, he would withdraw his motion, and give notice that the proposed alteration of the bye-law would be considered at a future meeting of the Council.

The meeting then resolved itself into a second Special Meeting for the consideration of a letter received from the Royal Agricultural Society, with regard to a notice of motion, "That an annual scholarship of £50 will be given to the pupil who shall pass the best examination at the Royal College of Veterinary Surgeons;" to receive the report from the committee on the the admission of foreign students and medical men to an examination; also to consider the draft of a supplementary charter, and for other business.

The Secretary read letters from Messrs. Cartwright and Lepper, regretting their inability to attend the meeting.

A letter was read from Messrs. Wilkinson and Son, Solicitors, Lincoln's Inn Fields.

A letter was read from the Secretary of the Central Veterinary Medical Society, conveying the thanks of the Society to the Council for the use of the Board Room, and asking for a continuance of the same privilege.

It was moved by Mr. Cartledge, seconded by Mr. Moon, and unanimously resolved, that the request be granted.

A letter was read from Dr. Dunsmure, relative to the Christmas examinations, and wishing to be informed authoritatively whether he was to summon a Board of Examiners provided there were only seven or eight students for examination.

The Secretary stated, that he was informed in reply that the report of the committee on the excessive cost of the Scotch examinations suggested that the Board of Examiners should not be called for a less number than six students.

Some discussion having ensued as to the exact meaning of this recommendation,

The President ruled that it was only a suggestion on the part of the committee, and that the question would be re-considered.

The following letter was read from the Secretary of the Royal Agricultural Society of England:—

"Royal Agricultural Society of England,
"Hanover Square, Nov. 17, 1875.

"Sir,—I am instructed by the Veterinary Committee of the Council of this Society, to inform you that at the last meeting of the Council, they gave notice that at the next monthly meeting they will move, "That in order to promote Veterinary education, the Council should offer annually a scholarship of £50, for the pupil who shall pass the best examination at the Royal College of Veterinary Surgeons.

"The Committee have not yet decided upon the precise terms and conditions upon which a scholarship should be offered by the Council, and they have directed me to *invite an expression of opinion* on the part of the Council of the Royal College of Veterinary Surgeons, with reference thereto, and *also generally* as to the desirability of establishing the proposed scholarship, and whether it could be awarded by the College in some such manner as that suggested in the notice of motion.

"The Committee will meet for the consideration of this subject on Tuesday, Dec. 7th, and I shall be much obliged if you could forward by that date a statement of the views of the College authorities upon the matter.

"(Signed) H. M. JENKINS, *Secretary.*

"The Secretary of the Council of Royal College of Veterinary Surgeons."

Professor Simonds, while expressing his gratification at the liberal offer made by the Royal Agricultural Society, thought that some advice should be

given to the Society by the Council as to the exact form the award of the £50 should take. The Society had made use of the word "scholarship," but the Council, being an examining and not an educational body, had not the power to award a scholarship. Having explained the mode of examination adopted by the Royal Veterinary College in the competition for scholarships, he suggested that the Royal Agricultural Society should be informed that the Council could only accept their donation to be awarded as a prize, and that they would make certain recommendations as to how it should be awarded.

Mr. Harpley said he viewed with very great delight the offer which had been made by the Royal Agricultural Society, as it was the first time that that body had officially acknowledged the Royal College of Veterinary Surgeons. Although the Council might discuss among themselves the meaning of the word "scholarship," he should propose at once that a letter should be sent to the Secretary of the Royal Agricultural Society, accepting with thanks the offer they had made, subject to such regulations as they might be able to carry out.

Mr. Gowing seconded the motion, which was carried unanimously.

The President moved that a small committee, consisting of himself and Messrs. Field, Harpley, and Fleming, be appointed to confer with the Royal Agricultural Society to settle the terms.

Mr. Field seconded the motion, which was carried.

In answer to Mr. Fleming, the President stated that the Royal Agricultural Society intended the prize for the whole of the veterinary schools, and that their special object was the promotion of the study of cattle pathology; in fact, by their charter they could not take cognisance of anything else.

The Admission of Foreign Students and Medical Men to an Examination.

The Secretary read the following report of the Committee appointed to consider this subject :—

"The Committee appointed by the Council to take into consideration the terms on which foreign students would be admitted to examination met on Tuesday, Nov. 2nd.

"Present—the President, Professor Simonds, Messrs. Field, Fleming, Harpley, and the Secretary.

"It was stated that the question on this subject had arisen in consequence of Mr. W. G. Boswell, a graduate of the Toronto Veterinary School, and now a student of the Royal Veterinary College, making application, through Professor Simonds, in May last, to be admitted to the final examination.

"The Council agreed to suspend 'Byelaw 31' in his favour, in order to admit him to an examination in April, 1876.

"The Committee also took into consideration the terms upon which medical men entering the veterinary profession might be admitted.

"After some discussion,

"It was moved by the President, seconded by Mr. Fleming, and carried unanimously,—

"'That a candidate who holds a diploma as a veterinary surgeon from any foreign or colonial school to be recognised by the Council; or any medical man holding a diploma from any home, foreign, or colonial school, to be recognised by the Council, may be admitted to an examination for the diploma of the Royal College of Veterinary Surgeons, after studying not less than one summer and one winter session at any veterinary school in Great Britain recognized by the Council.'

"He shall be examined in anatomy, materia medica, therapeutics, veterinary

medicine and surgery, the principles of shoeing, and the practical details of the profession.

"It was considered by the Committee that this might be made the basis of one of the bye-laws of the College.

"It was decided that a copy of the above be sent to Professor Simonds at his request."

Mr. Moon moved the adoption of the report.

Mr. Dray seconded the motion.

The President pointed out that the adoption of the report would involve an alteration in the bye-laws. At present it could only be received, and notice given to alter the bye-laws. He would, therefore, give notice that he intended to move such an alteration of the bye-laws as would enable the motion for the adoption of the report to be carried.

Mr. Harpley said that when he was placed on the Committee, he had not sufficiently considered the subject. At that time it seemed to have been the opinion of the Council that if a medical man passed one winter and one summer session at any of the recognised schools it would be considered a sufficient time for him to qualifiy himself for his diploma, and to go up for his examination. He had since considered this matter, and he was now of opinion that gentlemen of the medical profession should go through the same curriculum as the veterinary students before they were admitted. He did not think a medical man's knowledge would be of much service to him in the practical part of the veterinary profession; and he should therefore like the report to be amended before it was adopted.

Mr. Fleming said he had also given the subject subsequent consideration, and he was of the same opinion as Mr. Harpley. He thought that the veterinary profession would be placed in a bad position with regard to the medical profession, if a medical man could receive his diploma after only a summer and winter session; he did not think it would be fair to the profession. By adopting the course proposed, they would be placing medical men on the same footing as gentlemen who had passed a long period of study at other schools before they had received their diploma. It would not be fair to the men who had already passed, and it would not be fair to the profession, to say that they were able to make veterinary surgeons in a winter and a summer. He was sure it was perfectly impossible to make a medical man a well qualified veterinary surgeon in that period, and he thought he should undergo the same period of study as a veterinary student.

The President said that his own feeling was that a medical man started with as much knowledge as a veterinary student was likely to acquire at the end of the first year; and it was only fair to put him in the same position as if he had been at the veterinary college for a year.

On the motion of Professor Brown, seconded by Mr. Dray, it was resolved that the report be referred back to the Committee.

Mr. Clayton's Case.

Mr. Fleming said that some time ago the case of Mr. Clayton, M.R.C.V.S. (Army), was brought up. That gentleman had studied in France, and there were some doubts as to his having received the diploma of the French Government. He begged to state that Mr. Clayton had passed on the 20th of October, 1869.

Presentations to the Museum.

Mr. Fleming presented to the museum the cast of a Greek coin supposed to have been struck in the island of Tarentum, about three hundred years before our era, and surmised to represent the introduction of horse-shoeing. He also presented what was called a "horse sandal," which was found

among some Roman remains near Gravesend. This object had excited a large amount of curiosity and speculation amongst antiquaries. Similar specimens had been found at a large number of Roman stations, and their probable use had been very much discussed. Nevertheless, that would not, perhaps, diminish its value, because it would, with the cast of the coin, make our historical collection of farriery more complete.

On the motion of Professor Brown, seconded by Mr. Dray, a cordial vote of thanks was awarded to Mr. Fleming for his presentations.

Supplementary Charter.

The Secretary read the following report of the Charter Committee :—

The Charter Committee, consisting of the President, Messrs. J. C. Broad, Cox, Field, Fleming and Harpley, was convened Nov. 2nd.

The Secretary read certain extracts from the proceedings and correspondence which took place in the years 1866 and 1867, with reference to an application then made to her Majesty's Government, by the Council of the Royal College of Veterinary Surgeons, for the obtainment of a Veterinary Medical Bill, which was ultimately withdrawn.

It was considered by the Committee that, as a number of years had elapsed since the application was made, it would be desirable to make a second attempt to obtain certain powers, either by an Act of Parliament, or in the form of a Supplementary Charter, with University powers.

The Committee, after some discussion, thought it would be better to endeavour to obtain a Supplementary Charter, rather than an Act of Parliament.

The Committee then took into consideration the following subjects, laid before the Council at their last meeting, which they deemed advisable to have inserted in the proposed new charter :—

1st. The Committee recommend that power be taken to hold the annual general meetings in Edinburgh, as well as in London.

2nd. That the Council be elected by voting papers.

That a sum (say 15s.) instead of an annual contribution, be paid to cover the expenses of postage.

That power be taken to elect the Secretary from outside the profession.

That power should be sought to impose a penalty on unqualified persons calling themselves veterinary surgeons.

That power should be sought to enable the Council to erase the names of unworthy members or fellows from the register.

That power be sought to grant higher degrees than mere membership.

It was decided by the Committee that the Secretary should wait upon the Parliamentary Agent, and lay before him the subjects which they had had under consideration, and to ask what course he would advise the Council to pursue in reference to the obtainment of an Act of Parliament or an extended Charter; and in the event of the latter course being adopted, whether legal proceedings could be taken against any unqualified individual.

The Charter Committee again met Nov. 27th, when a letter, dated Nov. 18th, from the Parliamentary Agent, was read :—

"Dear Sir,—I now send you Draft Supplemental Charter for the Royal College of Veterinary Surgeons.

"Its terms will, of course, demand much consideration on the part of the Council of the College, as it ought to assume as perfect a shape as possible before being sent to the Privy Council Office.

"(Signed) "W. A. Loch.

"W. H. Coates, Esq., Sec. R.C.V.S."

The Draft Supplemental Charter having been read,

The following alterations and amendments were recommended by the Committee :—

It was observed that in the preamble of the Charter, no mention was made of the alteration of the title of R.C. of V.S. to Royal Veterinary University.

That with regard to the fellowships, there are no privileges mentioned. It was considered by the Committee that they should be extended to members of Council and to the examiners. A drafted paragraph was accordingly prepared.

Also that honorary degrees were not mentioned in the Charter. It was considered that they should be inserted, in order to act as a stimulus to young men who had recently obtained their diploma.

A form for the voting paper was drawn out and approved by the Committee.

Other verbal alterations were made and submitted to the Parliamentary Agent, with the request that a draft copy of the Supplementary Charter, as amended, might be laid before the special meeting of Council on Dec. 3rd.

The Committee recommended that a printed copy of the Charter be obtained and issued to each member of Council, in order to ascertain their views on the subject previous to the next meeting of Council.

The following letter from the Parliamentary Agent was read :—

"8, Great George Street, Westminster,
"Dec. 2nd, 1875.

"DEAR SIR,—I send herewith revised draft of proposed Supplementary Charter for the Royal College of Veterinary Surgeons.

"The object of postponing the operation of Clause 9 for ten years from the date of the Charter, is to enable present competent men, who for any reason may not be Fellows, to serve on the Council. At the end of a certain time, whether ten years hence or more, it may be supposed that the number of such competent men will be exhausted.

"I much question whether the power sought in Clause 13 will be obtained in its present form. It is scarcely to be supposed that the University will at once be empowered to prevent the numerous men who now practise throughout the country as veterinary surgeons, from designating themselves as such. Probably it will be stipulated that they should for a time be excepted from the operation of this clause in the Charter, though at some future period all practising veterinary surgeons may be obliged to possess the diploma of the University.

"I have given the draft of the proposed Supplemental Charter my anxious and best attention, but it is so important to the College that the terms of the draft should be carefully adjusted, that I venture to think it would be satisfactory to the Council if it were submitted to the consideration and revision of some eminent counsel; and no one, in my opinion, is better fitted for this task than Mr. Wolstenholme, who is among the first of draftsmen, and is well known to the authorities.

"I am, etc.,
"(Signed) "W. A. LOCH.

"W. H. Coates, Esq., Secretary,
"Royal College of Veterinary Surgeons."

The remainder of the time of the Council was occupied in considering, *seriatim*, the various clauses.

The following is a copy of the Charter, as amended :—

VICTORIA, by the grace of God, of Great Britain and Ireland, Queen, Defender of the Faith, to all to whom these presents shall come, greeting :

Whereas, by a Royal Charter or Letters Patent granted on the 8th day of March, in the seventh year of our reign, we were graciously pleased to grant,

ordain, and declare that THOMAS TURNER, WILLIAM JOSEPH GOODWIN, THOMAS MAVER, WILLIAM DICK, WILLIAM SEWELL, CHARLES SPOONER, and JAMES BEART SIMONDS, together with such other persons as then held certificates of qualification to practise as Veterinary Surgeons granted by the Royal Veterinary College of London, or by the Veterinary College of Edinburgh respectively, and such other persons as then were or might thereafter become Students of the Royal Veterinary College of London, or of the Veterinary College of Edinburgh, or of such other veterinary college, corporate or unincorporate, as then were or thereafter should be established for the purposes of education in veterinary surgery, whether in London or elsewhere in the United Kingdom, should be Members of and form one body politic and corporate by the name of "The Royal College of Veterinary Surgeons," by which name they should have a perpetual succession and a common Seal.

And whereas the said body politic and corporate is now regulated and governed by and according to the provisions of such Charter or Letters Patent, and also by and according to certain Bye-laws made by the said body politic and corporate for its regulation and better government. And the governing body of the said body politic and corporate consists of a Council of not more than thirty-one nor less than twenty-four Members of the said body politic and corporate.

And whereas, as directed by the said Charter or Letters Patent, annual general meetings of the Members of the said body politic and corporate are held at some place within the City of London or Westminster or the suburbs thereof.

And whereas it appears to us expedient that the name of the said body politic and corporate should be changed; and in order more effectually to promote and encourage the study of veterinary surgery, it appears to us also expedient that a new class of Members of the said body politic and corporate, to be called Fellows, should be created, and (with the exceptions of the first Fellows hereinafter named and directed and authorised to be appointed) be required in order to obtain the Diploma of their Fellowship, to have attained a greater age than is at present necessary in the case of Ordinary Members of the said body politic and corporate, and to have complied with such rules and regulations, and have passed such examinations, as hereinafter mentioned. That power should be given to the Members of the said body politic and corporate to vote at their annual general meetings by proxy. That a Registrar should be appointed, and a Register kept of all Members of the said body politic and corporate. That alterations be made as regards the election of future Secretaries, and that certain further powers and privileges also be granted to the said body politic and corporate.

Now know ye that we of our special grace and mere motion, at the humble petition of the said body politic and corporate, have willed, ordained, constituted, and declared, and granted, and by these presents for us our heirs and successors do will, ordain, constitute, and declare, and unto the said body politic and corporate do grant in manner following (that is to say):

1. That from henceforth the corporate name or style of the said body politic and corporate shall be "THE ROYAL VETERINARY UNIVERSITY," and that a portion of the Members of the said University shall be Fellows thereof by the name or style of "THE FELLOWS OF THE ROYAL VETERINARY UNIVERSITY."

2. That such of the Members of the said University, not exceeding five per centum of their whole number, as the Council at any time or times before the expiration of six calendar months from the date hereof shall elect and declare to be Fellows in manner hereinafter directed, shall be Fellows of the said University.

3. That the Council of the said University, with all convenient speed after the date of these our Letters Patent, and before the expiration of three calendar months from the date hereof, and in such manner as the said Council shall deem best, shall elect, and without any previous examination, to be Fellows of the said University, any such number of persons being Members of the said University, and not being in the whole more than five per centum of the whole number of such Members, and who shall have practised as Veterinary Surgeons for fifteen years previous to the date hereof, as the said Council shall think proper; and also shall, before the expiration of such six calendar months, by one general Diploma under the Seal of the said University, and in such form as the said Council shall think fit, declare or cause such persons to be declared Fellows of the Royal Veterinary University accordingly, but the names of all such persons so declared Fellows shall be contained and set forth in a Schedule to such General Diploma.

4. That, except as regards the Fellows to be elected as hereinbefore mentioned within six calendar months from the date hereof, no person shall become or be admitted a Fellow of the said University until after he shall have attained the age of twenty-six years, and shall have *bonâ fide* practised his profession of Veterinary Surgeon for not less than five years, and shall also have complied with such rules and regulations as the Council of the said University shall from time to time consider expedient, and by a Bye-law or Bye-laws direct, nor unless he shall have passed such test or special examination as the said Council shall from time to time think fit, and by Regulations or Bye-laws direct that Candidates for a Fellowship of the said University shall undergo; but every fit and proper person being a Member of the said University, having attained such age and complied with such rules and regulations, and passed such test or special examination, shall be entitled to be admitted a Fellow of the said University.

5. That the admission of every such new Fellow as last mentioned shall be by Diploma under the Seal of the said University, in such form as the Council of the University shall from time to time think fit and direct.

6. That the Fee to be paid on the election of every Fellow by the Council as hereinbefore mentioned (over and besides the stamp duty on his Diploma) shall be any sum not exceeding £10 10s., and that the Fee to be paid on the admittance of every such new Fellow as last aforesaid (over and besides the stamp duty on his admittance or Diploma) shall be any sum not exceeding the sum of £15 15s. as the Council of the said University shall from time to time think fit and by a Bye-law or Bye-laws direct.

7. That where several Diplomas shall be granted on the same day to such new Fellows as last aforesaid, such Diplomas shall be numbered under such regulations as the Council may think fit, in order to show the order and priority of such Diplomas among themselves.

8. That it shall be lawful for the Council of the said University, by Diploma under the Seal of the said University, to elect Honorary and Foreign Associates of the said University, with such privileges, and on the payment of such respective fees, as the said Council shall by Bye-law determine.

9. That the Council of the said University shall cause the name of every Fellow for the time being of the said University to be entered according to their several seniorities (in the manner and to be determined or ascertained as hereinafter mentioned) in a book or Register to be kept for that purpose at the office of the Secretary of the said University, or such other place for the time being as the said Council shall direct, and such book or Register of Fellows, at such times and subject to such reasonable and proper regulations as the Council for the time being shall think fit and direct, shall be open to the inspection of any Member of the said University (whether Fellow or not), at the office of the Secretary of the said University, or other place ap-

pointed for the time being for the custody of the same. And the seniority of such Fellows to be entered in such book or Register as aforesaid shall be and be determined or ascertained respectively as follows (that is to say):—The Fellows to be elected within three calendar months from the date hereof, as hereinbefore directed, according to the order and priority of their names as their same shall be contained and set forth in the Schedule to such General Diploma, whereby they shall be so declared Fellows as hereinbefore directed; and with respect to all other Fellows, their names shall be entered according to the dates of their respective Diplomas; and when the Diplomas of any Fellows shall bear date on the same day, then as regards or between such Fellows according to the order or priority in which the Diplomas shall be so numbered as hereinbefore directed.

10. That at the end of ten years from the date hereof, no Member of the said University, save and except the present Members of the said Council, who shall not also be a Fellow of the said University, shall be eligible to be a Member of the Council or to serve as a Veterinary Member of the Board of Examiners.

11. That at all Meetings of the said University at which votes shall be given for the election of the Council and Officers, all Members of the said University entitled to vote may give their votes either personally or, in case of residence exceeding five miles from the place where the Annual General Meeting shall for the time being be held, by voting papers authorised by writing in a form to be defined in the Bye-laws of the said University, or in a form to the like effect, such voting papers being transmitted under cover to the Secretary not less than seven clear days prior to the day on which the election is to take place.

12. That in place of all the Annual General Meetings of the Members of the said body politic and corporate being held at some place within the City of London, or Westminster, or the suburbs thereof, as directed by the said Charter, every third of such Meetings, reckoning from the next Annual General Meeting, may be held at Edinburgh.

13. That it shall be lawful for any Meeting of the Council, at which not less than two thirds of the Members shall be present, and with the consent of there fourths of the Members so present, but not otherwise, to remove any Member from the said University, and he shall thereupon cease to be a Member of the said University.

[Clause 14, regarding the position of a person assuming the title of Veterinary Surgeon without due qualification, is postponed.]

15. That the Council of the said University shall within one calendar month from the date hereof, appoint a fit and proper person as a Registrar, such Registrar to continue in office until the next Annual General Meeting of the said body politic and corporate, and on the day on which that Meeting shall be held, and on the day on which every subsequent Annual General Meeting shall be held, the said Council shall appoint a fit and proper person as a Registrar; and in case any vacancy shall happen in the office of Registrar from any cause, except that of going out of office annually, the same shall be filled up by the Council with all convenient speed, and the person to be appointed shall be decided by Ballot, and the said Council shall have power to remove any Registrar to be appointed by virtue of this Charter from the said office, and from time to time to appoint a new Registrar in the room of any Registrar who may die, or retire, or be removed from office as aforesaid.

16. That the Registrar to be appointed under or by virtue of this Charter shall from time to time make out and maintain a complete Register of all persons being Members of the said University according to the terms of the said Charter of Incorporation, and shall keep a proper Index of the Register

and all such other Registers and books as may be required by the said Council and may be necessary for giving effect to the Bye-laws of the said University.

17. That the Registrar to be appointed under or by virtue of this Charter shall be bound, on the application of any person paying one shilling, to certify under his hand whether or no any person, whose name and address shall be furnished to him, appears on the said Register or is a Member of the said University, and the Certificate of such Registrar, signed by the said Registrar and counter-signed by the President, or two Members of the said Council, shall, in the absence of evidence to the contrary, be sufficient evidence of the facts therein stated up to the date of the said Certificate.

18. That the Secretary to be appointed from time to time by the Council of the said University, may be selected either from among the Members of the said University, or otherwise, as the said Council for the time being determine, and the said Council may remove and re-appoint any such future Secretary.

And we do hereby further declare our will and pleasure to be that, except in the respects hereby altered, the said body politic and corporate, and Council of the same, shall have and continue to have all such and the same jurisdiction, powers, and authorities for and with respect to the government of the said University, and the election and choice of Officers of the same, and for the making, ordaining, confirming, annulling, or revoking Orders, Rules, and Bye-laws, and transacting and ordaining all other matters and things whatsoever for the regulation, government, and advantage of the said University, as the said body politic and corporate and the Council thereof respectively now have under or by virtue of the said hereinbefore-recited Charter or Letters Patent, or in any other lawful manner.

And we do hereby, for us, our heirs, and successors, further grant unto the said University that these our Letters Patent on the enrolment or exemplification thereof shall be in and by all things good, firm, valid, sufficient, and effectual in the law according to the true intent and meaning thereof, notwithstanding the not fully or not duly reciting the said Charter, or Letters Patent, or any other omission, imperfection, defect, matter, cause or thing whatsoever, the same or any rule or law to the contrary thereof in anywise notwithstanding.

In witness, etc.

On the motion of the President it was resolved that the Draft Charter be printed and circulated among the Members of the Council and the Principals of the Schools.

The Council then adjourned.

CENTRAL VETERINARY MEDICAL SOCIETY.

AT the ordinary general meeting held Thursday, December 2nd, at 10, Red Lion Square, at seven p.m., the president, T. W. Gowing, sen., Esq., in the chair, the minutes were read and confirmed; with the agenda that Mr. Cox wished it to be understood that he had recommended Neurotomy in the treatment of certain diseases of the foot—such as "quittor," and "suppurating corn,"—and not of "sidebones" specially, as the minutes appeared to convey.

Mr. Alfred Broad then read his paper on the distinguishing symptoms and treatment of "Nasal Gleet," which was printed with the last minutes.

Mr. Roalfe Cox considered Mr. Broad's production as an exhaustive paper in small space; agreeing with him especially as to the disease affecting chiefly one side. He thought it erroneous to feed such animals from the ground, as it did not relieve the discharge. He preferred rather to attach the animal's

head to a high rack, as it induced coughing and relief therefrom. He considered a pinch of snuff or ginger blown on the Schneiderian membrane as effectual; he also deprecated the free use of medicated injections, especially those of a scalding or caustic nature—preferring after two or three washes to allow nature to do its work. The position of the trephined openings was a point of difference: he noticed that Mr. Broad advocated the old positions; he thought they should be quite at the bottom of the sinuses, and believed it was more advantageous to permit the admission of air through them than plug them. It was most important to be sure as to the state of the teeth; disease of the upper molars being at times mistaken for this disease or Glanders.

Mr. Fleming considered the snuff-giving a good test also, owing to the practice, often resorted to by knowing people, of cleansing the nose prior to submitting the animal for examination, especially in cases where Glanders is suspected. He preferred the higher opening (the maxillary); he remarked that Professor Bouley advocated Potassæ Tartr. of Antimony ℥ i—ij in this condition, he assumed for specific purposes. In the inoculation test for this disease and Glanders, he stated that the mule, ass, and rabbit were peculiarly susceptible to the latter disease, and instanced a chance case mentioned by Professor Bollinger, in which two quantities of nasal discharge from different animals were used, one of which produced no effect in one rabbit, and a chancrous ulcer in the other.

The President, in trephining, always used a gimlet first to steady the trephine; he did not object to "corking" the orifices, using a champagne cork for the purpose; he remembered a horse so treated being worked during the time. In his treatment he merely used washes and gave good food.

Mr. Gowing, jun., used the nosebag to foment the nostrils, but to prevent injury by scalding, he first put some dry hay on the top of the water.

Mr. Broad, in replying, stated that he used "the plug" to the orifices, because of the quickness of the granulating process.

A vote of thanks having been accorded him for the paper read,

The President announced his intention of offering a few remarks on Parturient Apoplexy at the next meeting; he then adverted to a subject of interest connected with the Society itself. This consisted in a testimonial to the honorary secretary; and he called upon Mr. Roalfe Cox (who, together with Mr. W. Field, jun., had undertaken the duty of procuring it) to present it to Mr. Rowe, jun. In making the presentation—a very handsome tea-service—Mr. Cox, in a kindly speech, referred to his official connection with the Society, and assured him of the pleasure with which, in the name of the Fellows, he was able to mark their sense of his great value to the Society.

Mr. Rowe having responded, the meeting adjourned.

JAMES ROWE, JUN., *Hon. Sec.*

LIVERPOOL VETERINARY MEDICAL SOCIETY.

THE forty-fifth quarterly meeting of the Liverpool Veterinary Medical Association was held at the Medical Institute, Hope Street, on Friday evening, November 12th, 1875. The President, George Morgan, Esq., in the chair. There were present: Professor Murphy, Messrs. Heyes, Proctor, Lawson, Hutcheon, Rothwell, and Reynolds, Liverpool; T. Taylor and S. Locke, Manchester; W. Woods, Wigan. Letters of apology for non-attendance were read from Messrs. Barnes, Malpas; W. A. Cartwright, Whitchurch; Howell, Rochdale; J. and A. Lawson, Manchester; T. D. Broad, Bath; the Secretary and C. W. Elam, Liverpool. After the minutes of the previous meeting had been read and confirmed, Professor Murphy, Principal of the Liverpool College of Chemistry, read a paper upon the "Physical, Dietetical, and Chemical Properties of Milk."

In introducing the subject for discussion, after the paper had been read, the president complimented the professor upon the research and care he had displayed in describing the chemical and physical properties of milk so clearly to the Association; but he regretted the author had not given more complete information in regard to the dietetical portion of his subject, inasmuch as it was that section which would have the more attracted the interest of practical veterinary surgeons. But he was fully aware of the paucity of knowledge extant on the subject, as well as the difficulties attendant upon the acquisition of information as to the dietetical properties of milk when in a healthy or diseased condition, and he considered that it devolved rather upon the medical profession, both human and veterinary, than the chemist, to observe and record facts relating thereto.

The majority of members present entered into the discussion, which was chiefly confined to the effect produced by the imbibition of milk obtained from cows suffering from Foot-and-mouth disease. It was generally agreed that the disease was communicated in a virulent form to the young of animals, which are commonly susceptible to the affection by the imbibition of diseased milk; that the disease was also more virulent when the young animal was allowed to suck, or when the milk was given warm from its dam; and that subjection of the milk to a high temperature rendered it comparatively, if not completely, innocuous. With regard to the effect of milk from diseased animals on the human subject, Mr. Woods stated that, near Wigan, a number of children were affected with an eruption about the mouth, and it was a singular coincidence, if nothing more, that Foot-and-mouth disease was prevalent at or near the spot. On the other hand, Mr. Lawson had experimented on himself by repeatedly drinking milk from diseased cows, but without any result. Some members considered that the virus of the disease did not exist in the mammary secretion, but rather was derived from the eruptions upon the teats; but nearly all agreed that the milk of affected animals became altered in character.

Mr. Tom Taylor, of Manchester, then described the symptoms and *post-mortem* appearances of a disease amongst horses which had been exceedingly prevalent in Manchester and the surrounding district for several months. He did not consider it was exactly a new disease, but it created an extraordinary interest on account of its general prevalence. It was a disease almost entirely confined to the mucous membranes, but it differed essentially in character, according to the class of horse affected. In the lighter class of horses its form was extremely benign, and except in old and worn horses, or in those having an organ weakened by chronic disease, no mortality had occurred; though in heavy cart horses it was truly a frightful malady. Many of the best draught horses in Manchester had been attacked, and some of the soundest of them had succumbed.

The most uniform primary symptom was a drooping of the eyelids, and on minute examination considerable sub-conjunctival infiltration could be observed. Some cases commenced with griping pains; occasionally purgation succeeded; in other instances there was constipation. The pulse was sometimes scarcely disturbed, but in more severe cases it ranged from 80 to 100 beats per minute, and in one or two cases it had continued upwards of 120 for two or three days, and the animals subsequently recovered. Some horses commenced with symptoms of pulmonary congestion. The worst form of the disease was what might be termed the "laminitic." When it assumed that form, death was almost certain, and in most cases occurred in a few hours. In three instances he had observed, as a result, paralysis of the penis—two in geldings, and one in an entire horse; both the former recovered.

One peculiar feature in the symptoms was that a discharge from the nostrils was not to be considered favourable; in such cases he had seen

changes for the worse developed simultaneously with the commencement of the discharge, and a tedious convalescence result.

In all cases which had resulted in death, the mucous membranes of the alimentary canal and air-passages were found much disorganised; and even when the "laminitic" form had terminated fatally, the same appearances were found; one singular feature being a pear-shaped ecchymosed patch on the villous lining of the stomach. In brief, the *post-mortem* appearances forcibly reminded him of those found in cattle that had died of contagious Typhus.

With regard to treatment, he believed that in the benign form little or no medicine was necessary, and in the more acute "laminitic" type, treatment was of little or no avail.

He varied his treatment according to the urgency of the symptoms presented in each individual case; but although the presence of a cough was the exception, he invariably resorted to counter-irritation at the onset, and considered it to be the most powerful means in arresting or limiting the progress of the disease. He also took care to remove the shoes at once from all cart horses affected, and paid strict attention to the indications for hygienic and dietetic requirements. He could not say what medicines had the best effect: some cases he had treated with aconite in full doses; others with chlorate of potash; others with ordinary febrifuges, but without being able to arrive at any satisfactory conclusions.

An interesting and profitable discussion succeeded, in which all the members present took part.

The customary votes of thanks were accorded to Professor Murphy and to the retiring officers of the association.

The cash statement of the treasurer was read and approved.

Mr. Hutcheon was nominated for membership.

The following officers were then elected *nem. con.* for the ensuing year: Mr. Geo. Morgan, president; Messrs. J. Welsby, W. C. Lawson, C. W. Elam, vice-presidents; William Woods, treasurer; Richard S. Reynolds, honorary secretary.

RICHARD S. REYNOLDS, *Hon. Sec.*

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

THE general meeting of the Royal Agricultural Society was held on December 9th, Lord Chesham in the chair. The report was read, and among other matters it informed the members that, owing to the differences with the Royal Veterinary College, the annual grant made to that institution would be discontinued after December 31st, and that the future organization of the Veterinary Department of the Society had been carefully considered. As a basis, it had been resolved that the annual grant for veterinary purposes should be devoted as follows:—1. To giving members of the Society the opportunity of obtaining the best veterinary advice in the case of any extensive or serious outbreak of disease; 2. To providing for experiments being made in the treatment of diseases of animals belonging to the farm. The Council had communicated with the committees of the Royal Agricultural College and the Brown Institution, the latter being an establishment in London, governed by a committee of the senate of the University of London, founded for the purpose of facilitating investigations into the diseases of animals useful to man. After considering the report of a meeting between the Veterinary Committee and the Committee of the Brown Institution, the Council had resolved to place a sum not exceeding £500 for the year 1876 at the disposal of the Veterinary Committee for general veterinary purposes, and for special scientific inquiries into Pleuro-pneumonia and Foot-and-mouth disease, to be

carried out by Dr. Burdon Sanderson, the professor-superintendent of that institution. The veterinary assistant of that institution would also be authorized to act as the Society's veterinary inspector, in cases where members of the Society required veterinary aid, on the terms on which the grant had hitherto been paid to the professors of the Royal Veterinary College. With regard to the contagious diseases of animals, the report said : "The past autumn has again been characterized by an extensive outbreak of Foot-and-mouth disease, which was doubtless the result of causes that are every year in operation at this season, when farmers generally are buying in their winter supply of store cattle. These cattle in many cases have been in contact with affected beasts, either in fields, lairs, trucks, or steam-boats, or upon markets ; and have thus been made vehicles for the dissemination of the disease. The Council have repeatedly represented to the Government the measures which, in their opinion, are necessary to restrict the dimensions and importance of these annual outbreaks. These suggestions were framed upon the conviction that the outbreaks are mainly brought about by the movement of animals during the autumn from fair to fair, and so from fairs to farms, instead of, as at other seasons, from farms to slaughter-house. The scientific knowledge of this disease and of Pleuro-pneumonia appears to the Council so imperfect, that they have thought it desirable to initiate further inquiries as to their physiological (pathological?) character, in the hope thereby to guide their own members and the officials of the Government in carrying out both preventive and curative measures."

Among other speakers, Mr. Fowler regretted the loss of a representative of the farmers who, not being able to agree with the heads of his department upon the special subject of Foot-and-mouth disease, resigned—he referred to Mr. C. S. Read. Until the great towns could realize the magnitude of the loss sustained by these diseases, there was little hope the Government would do anything. The loss exceeded the whole value of foreign importation. They were not anxions for the prevention of the introduction of foreign cattle; indeed, they were only too glad to have them, as the people of this country were large food consumers. But they had a right to demand that they should be defended from foreign diseases.

Mr. Moore believed that if the Privy Council officials had the advice of practical agriculturists from various parts of the country upon the question of the contagious diseases of animals, it would conduce to some comprehensive scheme being adopted, and do away with the present pernicious piecemeal system.

Dr. Crisp was glad that the connection between the Society and the Veteinary College had ceased, because he had always thought that the arrangement was neither good for veterinary science, nor for the Society. A veterinary college commensurate with the importance of agricultural interests in England should be established, and Government should make a grant for this purpose. It was doubtful whether any practical good would be gained by the connection with the Brown Institution, because there was no uncertainty as to the nature of these diseases. Government was the only power which could effect any improvement in the matter, and unless an equable and comprehensive law were extended throughout the entire country, there would be little possibility of the diseases dying out.

Monthly Meeting.

At the Monthly Council held on Dec. 8, 1875, Lord Chesham in the chair, The Hon. W. Egerton, M.P., reported that with reference to the Scholarship which the Committee suggested last month should be offered by the Council annually, for the pupil who should pass the best examination at the Royal College of Veterinary Surgeons, they had received letters from the

Council of that College, and from the Principal of the Royal Veterinary College. Both letters contained suggestions for a conference between the Veterinary Committee of the Society and the governing bodies of those institutions. The Committee, therefore, recommended that an interview be arranged with the deputation appointed by the Royal College of Veterinary Surgeons for the purpose; and that the Principal of the Royal Veterinary College be informed that the object of the Council in offering this scholarship is the general promotion of veterinary science, and not the benefit of any particular institution; but that the Committee would be glad to receive any suggestion from the Governors of the Royal Veterinary College, should they wish to make any, in order to carry out the object of the Society in establishing the scholarship.

The Committee begged to move for the grant of a sum not exceeding £500 for the year 1876 (notice of which was given last month), for general veterinary purposes and for special scientific inquiries into Pleuro-pneumonia and Foot-and-mouth disease, to be carried out by Dr. Burdon Sanderson, the professor-superintendent of the Brown Institution. In reference to this subject the Committee had received a communication from the Committee of Management of the Brown Institution sanctioning the undertaking of these inquiries by the professor-superintendent of the Institution, on the understanding that all the expenses of such inquiry (of which a separate account will be kept) shall be provided for by sums placed by the Society, from time to time, at the disposal of the professor-superintendent, and that the results of his investigations shall be reported to the Society. With a view further to promote the scientific study of animal pathology in the manner desired by the Society, the Committee of the Brown Institution will be prepared to allow the employment of the veterinary assistant of the Brown Institution, from time to time, upon application to the professor-superintendent and with his sanction, as the Society's Inspector, on the terms hitherto paid under the agreement with the Royal Veterinary College. In the event of the Council making the grant now moved for by the Committee, they recommended that application should be made to the Privy Council for such relaxation of the existing orders as will enable the officers of the Brown Institution to carry out their investigations in Pleuro-pneumonia on behalf of the Society. The Committee had met eight times. They recommended that Professor Burdon Sanderson and Mr. Duguid be added to the Committee, and that the Committee of Management of the Brown Institution be invited to nominate two of their number to serve on the Committee. This Report was adopted, and the grant of £500 for the year 1876 was voted, on the motion of Mr. Egerton, seconded by Mr. Dent, after the following discussion:

Mr. Newdegate, M.P., stated that he had attended the meeting of the Council by permission, and had been charged with a message from the Governors of the Royal Veterinary College. This message had been moved by Mr. Wilkinson, the chief veterinary surgeon of the army, and seconded by Colonel Somerset, and was in the following terms:—"That the Chairman be requested to wait upon the Council of the Royal Agricultural Society, with a view of ascertaining, apart from all questions as to the grant of £200 a-year, in the reception of the Reports, whether it is the desire of the Council to terminate all connexion between the Society and the governing body of the College." He warned the Council that if the Society separated itself from the College, then the College must substitute other influences, which would supersede those which the Society had hitherto exercised. He did not request any answer to his representation then, but he asked the Council seriously to consider whether they should finally relax their hold over veterinary education. He was of opinion that the connexion between the governing bodies of the two institutons ought not to be severed, no matter what misunderstand-

ings had arisen, for which, in his opinion, the officers of the two institutions are responsible.

The Hon. W. Egerton, M.P., as Chairman of the Veterinary Committee, stated that the Committee had proposed to the Council a plan of scholarships or prizes, by means of which they hoped to continue the connexion ; for, although it was proposed to throw these rewards open to the students of all veterinary schools, yet if the Professors of the Royal Veterinary College were the best educators, their pupils would obtain the Society's scholarships. In this way the connexion would still be kept up. With regard to the other objects for the advancement of veterinary science, the Council had arrived at the opinion that they would be better attained through the Brown Institution, but their good feeling to the College would still remain.

Viscount Bridport observed that he had for many years been a Governor of the Royal Veterinary College, and would have been much pleased if the connexion between the two institutions could have been preserved ; but he felt that the time had passed for their being reunited on the same terms as hitherto. If the Society must now sever its connexion with the College, it was because a more liberal spirit had not been shown at the College to carry out those investigations which the Society considered of vital importance. He thought, however, it was very desirable that the Society should keep up its connexion with the College by offering the proposed scholarship to its students.

Mr. Dent regretted very much that he could not agree with the last remark which had fallen from Lord Bridport, as he was quite in accord with him upon other points. He held that their veterinary scholarships should be as open as those offered in agricultural education. The veterinary department of the Society had not for many years been in a satisfactory condition, and the members had not received that information and assistance from their veterinary officers which they had a right to expect. Very recently they had been told by the Principal of the College that there was nothing more to be discovered in reference to important diseases ; about which he himself considered they knew very little, and therefore he held that the Society was bound to call in the aid of men who held more extended views.

Mr. Newdegate, in reply, stated that he was not in the Council room to justify the conduct of the officers of the College, but he had come to express the hope that the connexion between the two institutions might not be severed. What he chiefly wished to urge was that the Society would not relax its hold upon the practical education of veterinary surgeons at the largest school of veterinary science in the kingdom. On the motion of the President, Mr. Newdegate's message was referred to the Veterinary Committee.

ROYAL COLLEGE OF VETERINARY SURGEONS' EXAMINATIONS.

AT the meetings of the Court of Examiners, held on December 16th, 17th, and 18th, the following students of the Royal Veterinary College were admitted as Members of the Royal College of Veterinary Surgeons : –

Mr. George Hugh Robert Wilkins, Islington.
„ Fred Hewson, Barnsley, Yorkshire.
„ George Frederick Davis, Dorchester, Dorset.
„ John Clayton Jones, Llannarth, Cardiganshire.
„ Richard Ferris, Totnes, Devon.
„ Ernest Rivett, Blundestone, Suffolk.
„ Henry Watson Talbott, Whatton, Notts.
„ Walter Lodge, Carlton, Pontefract.
„ Frederic Joseph Pyatt, Nottingham.
„ Alfred Hoole, Hallam Gate, Sheffield.

ARMY VETERINARY DEPARTMENT.

Gazette, November 30th, 1875.

W. A. Crow, Gent., to be Veterinary Surgeon on probation, vice J. Hume, promoted.

First Class Vet. Surgeon Skoulding is transferred from stud to Campbellpore, to march with B battery, F Brig. Roy. Horse Artillery, to Peshawur; Vet. Surgeon Reilly is transferred from Campbellpore to Morar; Vet. Surgeon Thomson is transferred from Morar to Cawnpore, for duty with Roy. Artillery; Vet. Surgeon Pallin, Roy. Artillery, to Bombay, to appear before a medical board.

Vet. Surgeons Pallin and Bolton have sailed from England for India.

Obituary.

At Curroch Farm, Crieff, Perthshire, on October 27th, Andrew MacGregor, aged 58 years. His diploma bears date April 19th, 1838.

In the *Veterinary Journal* for December, we could only announce the demise of Mr. Francis Storie, of East Linton. It affords us much gratification to note the esteem in which our deceased colleague was held, as is testified in the following allusion to the lamentable occurrence, which appeared in the *Haddingtonshire Courier*:—"Not only the inhabitants of East Linton, but of a wide extent of country both in East Lothian and Berwickshire, will receive with feelings of deep regret the intelligence of the death of Mr. Storie, veterinary surgeon. It seems such a short time since he was going the round of the district, that one can hardly realize the fact that he has been taken away. His friends did not apprehend any immediate danger till about ten days before his death. After that time, however, he gradually became weaker, until, on Friday morning, he quietly breathed his last. In another year a century will have revolved since the late Mr. John Storie established himself in business as a farrier and surgeon, and during the latter half of that long period the profession has been ably sustained by the deceased, Mr. Francis, his eldest son. He studied in Edinburgh under the late Professor Dick—being, in fact, one of that gentleman's earliest pupils; and he also received much valuable information from his father. Only a year ago, when present at an entertainment given in honour of his nephew and successor, Mr. John Storie, jun., who had then just received his diploma, we heard him tell of those early days, when, after a spell of hard work at the anvil, he had to tramp a long distance to make a professional visit—'no riding in gigs,' he remarked, which is so common now. It was not to be wondered, therefore, that a gentleman so thoroughly grounded in his profession, and so painstaking in all he undertook, should succeed in not only gaining a most extensive practice, but meriting the confidence and respect of all with whom he came in contact. In addition to his laborious professional duties, he possessed in a great degree that promptness, energy, and general aptitude for business which rendered him specially useful in all matters pertaining to public affairs. He had for many years taken an active part in the administration of the poor-law in the parish of Prestonkirk. He had also, since the passing of the Lindsay Act, acted as one of the commissioners of police for the burgh of East Linton, including a term of three years' office as senior magistrate, was chairman of the gas light company, and for the long period of nearly forty years acted as secretary to the local curling club. In private life Mr. Storie

was of a warm and social disposition ; straightforward and honest, he never could dissemble. His remarks might be blunt, but you were always sure they were honest ; and he was ever mindful of the poor. He did not often, indeed, give large sums of money, and you did not always find his name at the head of a subscription paper ; but he never, on any occasion, made an exception to his standing rule of making no charge for professional attendance on the animals belonging to the poorer classes of the community. The relief thus afforded in the course of half a century, in a county where, until lately, almost every hind kept his cow, can only be imagined. As a proof of this generous disposition, we quote the following, engraved upon a silver snuff-box : viz.,—'To Francis Storie, Esq., veterinary surgeon, from the carters of East Linton, as a token of gratitude for his professional services. 1846.' A large company of mourners assembled and accompanied his remains to their last resting-place in Prestonkirk churchyard."

At Copenhagen, on June 6th, died the nestor of the veterinary profession in Denmark—D. G. Ringheim, aged eighty-eight years. From 1810 to 1851 he had been veterinary surgeon in the Artillery. In 1837 he was appointed staff veterinary surgeon, and was engaged in the war of 1848-50. In the establishment of the Danish Veterinary Confederacy, Ringheim made himself particularly active, and he contributed largely to professional literature. Up to the last he continued busily engaged in practice.

Correspondence, etc.

THE CONTAGIOUSNESS AND PREVENTION OF BOVINE PLEURO-PNEUMONIA.

To the Editor of the VETERINARY JOURNAL.

SIR,—The remarkable correspondence between the Shrewsbury magistrates and the Privy Council officers, published in your last number, on the question of Pleuro-pneumonia, has opened up several questions in connection with Sanitary Police which demand the serious consideration of every member of the profession ; and not only their consideration, but an expression of opinion.

1. Is the veterinary profession, as represented by the veterinary advisers of the Privy Council, responsible for the continuance and increased spread amongst us of contagious diseases ?

From the discussions which have recently taken place in Norfolk, such would seem to be the case ; for if one portion of the profession commits itself, in the eyes of the public every individual is equally guilty.

In the first place, I must express my entire concurrence with the opinion given by Mr. Litt as to the infectious nature of Pleuro-pneumonia. If its spread is to be confined within such narrow limits as actual cohabitation, then we ought to blush for shame that the Veterinary Department of the Privy Council has not recommended and insisted upon the adoption of such measures as would long ere this have made the disease a thing of the past. If it can be spread by a variety of other ways, a great responsibility must attach to those who have expressed the opinion that it is only propagated by cohabitation.

Do facts bear out the latter supposition ? I say not. We may not all be able to put our thumb upon a fact, or facts, to prove that Pleuro-pneumonia is infectious ; for the simple reason that, as the question has not been before

prominently raised, we may not have kept notes of such facts. But I do not hesitate to assert that those who have seen anything of the spread of the disease in country districts, must have recorded on the tablets of memory more than one case of transmission of the disease by other means than that of actual cohabitation. If it is not transmitted at a distance, either by *fomites or through the medium of the atmosphere*, how is it that it is found to break out on farms where all the stock has been for a number of years home-bred, and where the animals upon them have never come in contact with others? Painful experience has taught many farmers better than this; and hence the objection shown by them to the employment of veterinary surgeons, when the disease is prevalent in a district. This question is one of vital importance; and I trust the members of the profession will express their opinions freely upon it; more particularly as we are certain to be looked up to more in this matter than we have hitherto been.

2. If the veterinary advisers of the Privy Council are responsible for the acts of the latter, how is it that they do not alter the absurd restriction of thirty days? I can prove by figures that the disease may break out at an interval of three months after the last diseased animal has been removed. Scores of veterinary surgeons, I imagine, can prove the same thing.

3. As to the present method of giving compensation. It is only holding out a premium to dairymen and others to keep the disease about them; they know perfectly well that if they can only keep a cow two or three months in their byres giving milk, they can afford, with compensation, to lose her, and make money out of the transaction. If a dairyman has a cow attacked, he will not report until every animal in his possession which is fit for the butcher is thrown into the market; because he is aware that if he reports he cannot put his fat animals in the market, and their value is deteriorated because the butcher will take advantage of him. The consequence is that his animals are sent to the sale-yard or the market (store and fat stock mixed), carry the disease with them, and spread it all over the district or country. Protect the dairyman against loss by compensating him for the deterioration of value in his fat animals, and he will immediately report, and thus afford a chance for measures to be taken to arrest the progress of the disease.

4. Of what use is it to prevent a man taking cows out of his byres, so long as he is allowed to put them in while the byre is infected? It is a monstrous absurdity, and is like heaping fresh fuel upon a smouldering fire, which but for the new supply would have died out.

It was proposed to the magistrates of the city of Edinburgh, the other day, not to give compensation for animals which might succumb to the disease after thus being wilfully exposed to the infection. Can there be a question as to the wisdom of the proposition? Only this—that it is not radical enough.

5. A separate market should be held for fat and store cattle, if the present system is to be allowed to go on.

6. And—as I advocated in a communication to the *North British Agriculturist* three years ago—all fat cattle should be slaughtered at the port of debarkation (*i.e.* if foreign importation is still permitted), and the skins and offal disinfected. Importation of store stock from scheduled countries should be stringently prohibited; and as we get such a large supply of grain from other countries, the slaughter of calves and lambs should be restricted, and they should be kept and fed to increase the meat supply.

7. No dairy should be allowed to exist where sanitary regulations are not strictly enforced; it must be patent to all that the more dirty and ill ventilated the shippons, the longer the disease lingers about them.

8. Stoppage of fairs and markets in proclaimed districts.

Finally. Is Pleuro-pneumonia generated spontaneously? Without attempting to answer the question, I will ask, If Anthrax poisons are spontaneously

generated, of which I think little doubt can exist, why cannot the virus of Pleuro-pneumonia?

In my inaugural address at the last annual meeting of the Scottish Metropolitan Veterinary Medical Association, I advanced the opinion that animals which had been the subjects of Pleuro-pneumonia, and had partially recovered, were capable of propagating the virus as long as tissue changes were going on in the damaged lung. I should much like the opinions of others on this point.

I am sir, your obedient servant,
THOMAS WALLEY,
Principal and Professor.

VETERINARY COLLEGE,
EDINBURGH, *Dec. 14th*, 1875.

CORRIGENDA.

We deem it right to mention that the woodcut introduced into Professor Walley's paper at page 355, Vol. I. of this Journal, was from a drawing by Professor Vaughan, of the New Veterinary College, Edinburgh, who is an adept with his pencil.

In case of misapprehension with regard to the sum we named in our last number as having been allowed Mr. Field for his professional attendance at a late trial, we may again state that it was *six guineas per diem* —eighteen guineas for the three days.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from J. B. Martin, Rochester; W. J. Cooper, London; R. Reynolds, Liverpool; J. Storie, East Linton; R. Poyser, 4th Hussars; J. Lambert, 17th Lancers; J. Rowe, junr., London; Professor Walley, Edinburgh; Professor McEachran, Montreal; C. R. Lyman, Springfield, Mass., U.S.A.; J. B. McGregor, Crieff; G. Wyer, Donington.

BOOKS: *Rolleston*, Forms of Animal Life; Rules of the Montreal Veterinary Medical Association; Bulletin de la Soc. Roy. Protectrice des Animaux; *Belleville*, La Rage au Point de Vue Physiologique.

JOURNALS: *Annales de Méd. Vétérinaire; Recueil de Méd. Vétérinaire; Veterinarian; Der Thierarzt; Repertorium der Thierheilkunde; Wochenschrift für Thierheilkunde*, etc.; *Gazetta Medico-Veterinaria; Gesundheit, Wohlltand, und Glück.*

NEWSPAPERS: *The Australian; Journal of the National Agricultural Society of Victoria; Land and Water; Freeman's Journal; Irish Times; Haddingtonshire Courier; British Press and Jersey Times; Ackerbau Zeitung; Leinster Express; Hexham Courier; Spalding Free Press; Toronto Leader; Bombay Gazette.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

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